SAMSUNG

DIGITAL COLOR LASER MFP

CLX-3160 Series

CLX-3160FN/XAA

Basic Model : CLX-3160FN

SERVICE *Manual*

DIGITAL COLOR LASER MFP

The keynote of Product

1. Engine Speed :
   Up to 16 ppm in A4 black (17 ppm in Letter)
   Up to 4 ppm in A4 color (4 ppm in Letter)
2. Resolution :
   - Optical, 600 x 600 dpi
   - Support, MAX: 2400 x 600 dpi class, 1200 x 600 dpi (default), 600 x 600 dpi (Color & B&W)
3. MPU : Samsung CHORUSm 300MHz
4. Memory :
   - Std.: 128 MB, Max.: 128 MB (Memory not Expansion)
5. Default Driver: SPL-C (Samsung Printer Language Color)
6. USB: USB 2.0, USB host (Scan to USB, Direct print)
7. Network : Ethernet 10/100 Base TX
8. Consumable :
   - 6 (C/M/Y/K toner, Imaging Unit, Waste toner box)
   - K toner : CLX-K3160A
   - C toner : CLX-C3160A
   - M toner : CLX-M3160A
   - Y toner : CLX-Y3160A
   - Imaging unit : CLP-R300A (common with CLP-300)
   - Waste toner box : CLP-W300A (common with CLP-300)
   - CMY Rainbow kit : CLX-P3160A
9. SET Life Cycle : 200,000 image

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1. Precautions

In order to prevent accidents and to prevent damage to the equipment please read the precautions listed below carefully before servicing the printer and follow them closely.

1.1 Safety Warning

(1) Only to be serviced by appropriately qualified service engineers.
High voltages and lasers inside this product are dangerous. This printer should only be serviced by a suitably trained and qualified service engineer.

(2) Use only Samsung replacement parts
There are no user serviceable parts inside the printer. Do not make any unauthorized changes or additions to the printer, these could cause the printer to malfunction and create electric shock or fire haz-ards.

(3) Laser Safety Statement
The Printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR, chapter 1 Subchapter J for Class 1(1) laser products, and elsewhere, it is certified as a Class I laser product con-forming to the requirements of IEC 825. Class I laser products are not considered to be hazardous. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

Warning >> Never operate or service the printer with the protective cover removed from Laser/Scanner assembly. The reflected beam, although invisible, can damage your eyes. When using this product, these basic safety pre-cautions should always be followed to reduce risk of fire, electric shock, and injury to persons.

CAUTION - INVISIBLE LASER RADIATION WHEN THIS COVER OPEN. DO NOT OPEN THIS COVER.

VORSICHT - UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

ATTENTION - RAYONNEMENT LASER INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.

ATTENZIONE - RADIAZIONE LASER INVISIBILE IN CASO DI APERTURA. EVITARE L'ESPOSIZIONE AL FASCIO.

PRECAUCION - RADIACION LASER IVISIBLE CUANDO SE ABRE. EVITAR EXPONERSE AL RAYO.

ADVARSEL. - USYNLIG LASERSTRÅLNING VED ÅBNING, NÅR SIKKERHEDSBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLNING.

ADVARSEL. - USYNLIG LASERSTRÅLNING NÅR DEKSEL ÅPNES. STIRR IKKE INN I STRÅLEN. UNNGÅ EKSPONERING FOR STRÅLEN.

VARNING - OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN. STRÅLEN ÄR FARLIG.

VARO! - AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASER-SÄTEILYLLE ÄLÄ KATSO SÄTEESEEN.

注 意 - 严禁渴开此盖, 以免激光泄露灼伤

주 의 - 이 덮개를 열면 레이저광에 노출될 수 있으므로 주의하십시오.

1.2 Caution for safety

1.2.1 Toxic material

This product contains toxic materials that could cause illness if ingested.

(1) If the LCD control panel is damaged it is possible for the liquid inside to leak. This liquid is toxic. Contact with the skin should be avoided, wash any splashes from eyes or skin immediately and contact your doctor. If the liquid gets into the mouth or is swallowed see a doctor immediately.

(2) Please keep toner cartridges away from children. The toner powder contained in the toner cartridge may be harmful and if swallowed you should contact a doctor.

1.2.2 Electric Shock and Fire Safety Precautions

Failure to follow the following instructions could cause electric shock or potentially cause a fire.

(1) Use only the correct voltage, failure to do so could damage the printer and potentially cause a fire or electric shock.

(2) Use only the power cable supplied with the printer. Use of an incorrectly specified cable could cause the cable to overheat and potentially cause a fire.

(3) Do not overload the power socket, this could lead to overheating of the cables inside the wall and could lead to a fire.

(4) Do not allow water or other liquids to spill into the printer, this can cause electric shock. Do not allow paper clips, pins or other foreign objects to fall into the printer these could cause a short circuit leading to an electric shock or fire hazard..

(5) Never touch the plugs on either end of the power cable with wet hands, this can cause electric shock. When servicing the printer remove the power plug from the wall socket.

(6) Use caution when inserting or removing the power connector. The power connector must be inserted completely otherwise a poor contact could cause overheating possibly leading to a fire. When removing the power connector grip it firmly and pull.

(7) Take care of the power cable. Do not allow it to become twisted, bent sharply round corners or other wise damaged. Do not place objects on top of the power cable. If the power cable is damaged it could overheat and cause a fire or exposed cables could cause an electric shock. Replace a damaged power cable immediately, do not reuse or repair the damaged cable. Some chemicals can attack the coating on the power cable, weakening the cover or exposing cables causing fire and shock risks.

(8) Ensure that the power sockets and plugs are not cracked or broken in any way. Any such defects should be repaired immediately. Take care not to cut or damage the power cable or plugs when moving the machine.

(9) Use caution during thunder or lightening storms. Samsung recommend that this machine be disconnected from the power source when such weather conditions are expected. Do not touch the machine or the power cord if it is still connected to the wall socket in these weather conditions.

(10) Avoid damp or dusty areas, install the printer in a clean well ventilated location. Do not position the machine near a humidifier. Damp and dust build up inside the machine can lead to overheating and cause a fire.

(11) Do not position the printer in direct sunlight. This will cause the temperature inside the printer to rise possibly leading to the printer failing to work properly and in extreme conditions could lead to a fire.

(12) Do not insert any metal objects into the machine through the ventilator fan or other part of the casing, it could make contact with a high voltage conductor inside the machine and cause an electric shock.

1.2.3 Handling Precautions

The following instructions are for your own personal safety, to avoid injury and so as not to damage the printer

(1) Ensure the printer is installed on a level surface, capable of supporting its weight. Failure to do so could cause the printer to tip or fall.
(2) The printer contains many rollers, gears and fans. Take great care to ensure that you do not catch your fingers, hair or clothing in any of these rotating devices.
(3) Do not place any small metal objects, containers of water, chemicals or other liquids close to the printer which if spilled could get into the machine and cause damage or a shock or fire hazard.
(4) Do not install the machine in areas with high dust or moisture levels, beside on open window or close to a humidifier or heater. Damage could be caused to the printer in such areas.
(5) Do not place candles, burning cigarettes, etc on the printer, These could cause a fire.

1.2.4 Assembly / Disassembly Precautions

Replace parts carefully, always use Samsung parts. Take care to note the exact location of parts and also cable routing before dismantling any part of the machine. Ensure all parts and cables are replaced correctly. Please carry out the following procedures before dismantling the printer or replacing any parts.

(1) Check the contents of the machine memory and make a note of any user settings. These will be erased if the mainboard or network card is replaced.
(2) Ensure that power is disconnected before servicing or replacing any electrical parts.
(3) Disconnect printer interface cables and power cables.
(4) Only use approved spare parts. Ensure that part number, product name, any voltage, current or temperature rating are correct.
(5) When removing or re-fitting any parts do not use excessive force, especially when fitting screws into plastic.
(6) Take care not to drop any small parts into the machine.
(7) Handling of the OPC Drum
- The OPC Drum can be irreparably damaged if it exposed to light.
  Take care not to expose the OPC Drum either to direct sunlight or to fluorescent or incandescent room lighting. Exposure for as little as 5 mins can damage the surface's photoconductive properties and will result in print quality degradation. Take extra care when servicing the printer. Remove the OPC Drum and store it in a black bag or other lightproof container. Take care when working with the covers(especially the top cover) open as light is admitted to the OPC area and can damage the OPC Drum.
- Take care not to scratch the green surface of OPC Drum Unit.
  If the green surface of the Drum Cartridge is scratched or touched the print quality will be compromised.

1.2.5 Disregarding this warning may cause bodily injury

(1) Be careful with the high temperature part.
The fuser unit works at a high temperature. Use caution when working on the printer. Wait for the fuser to cool down before disassembly.

(2) Do not put finger or hair into the rotating parts.
When operating a printer, do not put hand or hair into the rotating parts (Paper feeding entrance, motor, fan, etc.). If do, you can get harm.

(3) When you move the printer.
This printer weighs 19.95kg including toner cartridge and cassette. Use safe lifting and handling techniques. Use the lifting handles located on each side of the machine. Back injury could be caused if you do not lift carefully.

(4) Ensure the printer is installed safely.
The printer weighs 19.95Kg, ensure the printer is installed on a level surface, capable of supporting its weight. Failure to do so could cause the printer to tip or fall possibly causing personal injury or damaging the printer.

(5) Do not install the printer on a sloping or unstable surface. After installation, double check that the printer is stable.

1.3 ESD Precautions

Certain semiconductor devices can be easily damaged by static electricity. Such components are commonly called “Electrostatically Sensitive (ES) Devices”, or ESDs. Examples of typical ESDs are: integrated circuits, some field effect transistors, and semiconductor “chip” components.

The techniques outlined below should be followed to help reduce the incidence of component damage caused by static electricity.

Caution >>Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

1. Immediately before handling a semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, employ a commercially available wrist strap device, which should be removed for your personal safety reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ESDs, place the assembly on a conductive surface, such as aluminum or copper foil, or conductive foam, to prevent electrostatic charge buildup in the vicinity of the assembly.
3. Use only a grounded tip soldering iron to solder or desolder ESDs.
4. Use only an “anti-static” solder removal device. Some solder removal devices not classified as “anti-static” can generate electrical charges sufficient to damage ESDs.
5. Do not use Freon-propelled chemicals. When sprayed, these can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective packaging until immediately before installing it. Most replacement ESDs are packaged with all leads shorted together by conductive foam, aluminum foil, or a comparable conductive material.
7. Immediately before removing the protective shorting material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
8. Maintain continuous electrical contact between the ESD and the assembly into which it will be installed, until completely plugged or soldered into the circuit.
9. Minimize bodily motions when handling unpackaged replacement ESDs. Normal motions, such as the brushing together of clothing fabric and lifting one’s foot from a carpeted floor, can generate static electricity sufficient to damage an ESD.

1.4 Super Capacitor or Lithium Battery Precautions

1. Exercise caution when replacing a super capacitor or Lithium battery. There could be a danger of explosion and subsequent operator injury and/or equipment damage if incorrectly installed.

2. Be sure to replace the battery with the same or equivalent type recommended by the manufacturer.

3. Super capacitor or Lithium batteries contain toxic substances and should not be opened, crushed, or burned for disposal.

4. Dispose of used batteries according to the manufacture’s instructions.

2. Product Specifications

Specfications are correct at the time of printing. Product specifications are subject to change without notice. See below for product specifications.

2.1 Product Overview

1) Key Feature

○ Speed
- 16ppm B&W, 4ppm color print / copy

○ Consumables
- Black toner (2K sheet)
- CMY toner (1K sheet)

○ Paper handling
- 1sheet Manual slot, 150 sheet Semi-cassette, 250 sheet cassette option

○ Interface
- USB 2.0, Ethernet 10/100 Base TX, USB host (PictBridge)

2) Concept

○ Small size Color laser MFP(A4 Color laser MFP)

○ Target user
- Small office & small business
- CLX-3160N (3in1, SPL)
- CLX-3160FN (4in1, SPL)

○ Black only printing function

○ Auto warning sheet

○ USB host function
- PictBridge
- Scan to USB memory, direct printing

2.2 Product General Specifications

2.2.1 General Print Engine

CLX-3160 Series		CLX-3160N Spec.	CLX-3160FN Spec.
Engine Speed	Simplex	Up to 16 ppm in A4 black (17 ppm in Letter) Up to 4 ppm in A4 color (4 ppm in Letter)	Up to 16 ppm in A4 black (17 ppm in Letter) Up to 4 ppm in A4 color (4 ppm in Letter)
	Duplex	N/A	N/A
Warmup time		Less than 35 sec	Less than 35 sec
FPOT (B&W)	From Ready	Less than 14 sec	Less than 14 sec
	From Idle	Less than 45 sec	Less than 45 sec
	From Coldboot	Less than 45 sec	Less than 45 sec
FPOT (Color)	From Ready	Less than 26 sec	Less than 26 sec
	From Idle	Less than 57 sec	Less than 57 sec
	From Coldboot	Less than 57 sec	Less than 57 sec
Resolution	Optical	600 x 600 dpi	600 x 600 dpi
	Support	MAX: 2400 x 600 dpi class, 1200 x 600 dpi (default), 600 x 600 dpi(Color & B&W)	MAX: 2400 x 600 dpi class, 1200 x 600 dpi (default), 600 x 600 dpi(Color & B&W)

2.2.2 Controller & S/W

CLX-3160 Series		CLX-3160N Spec.	CLX-3160FN Spec.
MPU		Samsung CHORUSm 300MHz	Samsung CHORUSm 300MHz
Memory	Std.	128 MB	128 MB
	Max.	128 MB	128 MB
Memory Expansion		N/A	N/A
Printer Languages		SPL-C (Samsung Printer Language Color)	SPL-C (Samsung Printer Language Color)
Fonts		Windows fonts	Windows fonts
Printer driver	Supporting OS	[Windows] - Windows 98/Me/2000/XP - In box N/A	[Windows] - Windows 98/Me/2000/XP - In box N/A
		[Linux] - RedHat 8.0 ~ 9.0 - Fedora Core 1~4 - Madrake 9.2 ~ 10.1 - SuSE 8.2 ~ 9.2 - (Smart panel N/A)	[Linux] - RedHat 8.0 ~ 9.0 - Fedora Core 1~4 - Madrake 9.2 ~ 10.1 - SuSE 8.2 ~ 9.2 - (Smart panel N/A)
		[Mac] - Mac OS 10.3~10.4 - (Mac OS 9 N/A) - (Smart panel N/A)	[Mac] - Mac OS 10.3~10.4 - (Mac OS 9 N/A) - (Smart panel N/A)

CLX-3160 Series		CLX-3160N Spec.	CLX-3160FN Spec.
	Default Driver	SPL-C (Samsung Printer Language Color)	SPL-C (Samsung Printer Language Color)
	WHQL	Windows 2000/XP	Windows 2000/XP
	Language Localization	[Windows] : Korean, English, French, German, Italian, Spanish, Russian, Dutch, E.Portuguese, B.Portuguese, Finish, Swedish, Norwegian, Danish, S.Chinese, T.Chinese, Polish, Hungarian, Czech, Turkish, Greek [Mac] : English, French, German, Italian, Spanish, Korea [Linux] : English only	[Windows] : Korean, English, French, German, Italian, Spanish, Russian, Dutch, E.Portuguese, B.Portuguese, Finish, Swedish, Norwegian, Danish, S.Chinese, T.Chinese, Polish, Hungarian, Czech, Turkish, Greek [Mac] : English, French, German, Italian, Spanish, Korea [Linux] : English only
Scan driver	TWAIN	Yes	Yes
	WIA	Yes(Win XP only)	Yes(Win XP only)
Application	Network Scan (Client)	Yes (multi-folder)	Yes (multi-folder)
	PC-FAX	N/A	Yes(Mono Send only, Included in SmarThru4)
	PSU	USB only	USB only
	Status Monitor or Virtual panel	USB / Network, Default Install	USB / Network, Default Install
	Network Management	Set IP, SWAS & SWS(Linux, Mac Not support SWAS & SWS Iexplorer 5.0 or higher)	Set IP, SWAS & SWS(Linux, Mac Not support SWAS & SWS Iexplorer 5.0 or higher)
	SmarThru	SmarThru 4	SmarThru 4
Interface			
Parallel		N/A	N/A
USB		USB 2.0, USB host 1.1 (Scan to USB, Direct print)	USB 2.0, USB host 1.1 (Scan to USB, Direct print)
Network		Ethernet 10/100 Base TX	Ethernet 10/100 Base TX
Wireless		N/A	N/A
Network Interface			
Protocol		TCP/IP, IPP, SNMP V2	TCP/IP, IPP, SNMP V2
User Interface			
LCD		2 line LCD (China, Korea : Graphic LCD)	2 line LCD (China, Korea : Graphic LCD)
OP UI		OP UI Guide 2.0	OP UI Guide 2.0

2.2.3 Scan

CLX-3160 Series		CLX-3160N Spec.	CLX-3160FN Spec.
Scan method		Color CCD	Color CCD
Scan Speed	Linearity, Halftone	15 Sec(300dpi,USB2.0,P4 3.0GHz,512M)/Ltr	15 Sec(300dpi,USB2.0,P4 3.0GHz,512M)/Ltr
	Gray	20 Sec(300dpi,USB2.0,P4 3.0GHz,512M)/Ltr	20 Sec(300dpi,USB2.0,P4 3.0GHz,512M)/Ltr
	Color	30 Sec(300dpi,USB2.0,P4 3.0GHz,512M)/Ltr	30 Sec(300dpi,USB2.0,P4 3.0GHz,512M)/Ltr
Resolution	Optical	600 x 1200dpi	600 x 1200dpi
	Enhanced	4800dpi x 4800dpi	4800dpi x 4800dpi
Halftone		256levels	256levels
Scan Size	Max. Document Width	Max.216mm(8.5inch)	Max.216mm(8.5inch)
	Effiective Scan Width	Max 208mm(8.2inch)	Max 208mm(8.2inch)
Scan Depth	Color	24bits	24bits
	Mono	- 1bit for Linearity & Halftone - 8Bits for Gray scale	- 1bit for Linearity & Halftone - 8Bits for Gray scale
Compatibility		[Windows] - Windows 98/Me/2000/XP [Linux] - RedHat 8.0 ~ 9.0 - Fedora Core 1~4 - Madrake 9.2 ~ 10.1 - SuSE 8.2 ~ 9.2	[Windows] - Windows 98/Me/2000/XP [Linux] - RedHat 8.0 ~ 9.0 - Fedora Core 1~4 - Madrake 9.2 ~ 10.1 - SuSE 8.2 ~ 9.2

2.2.4 Copy

CLX-3160 Series		CLX-3160N Spec.	CLX-3160FN Spec.
Copy Speed	Simplex Copy Speed	@SDMC up to 16 cpm in A4 black (17 cpm in Letter)Up to 4 cpm in A4 color (4 cpm in Letter)	@SDMC up to 16 cpm in A4 black (17 cpm in Letter)Up to 4 cpm in A4 color (4 cpm in Letter)
	Duplex Copy Speed	N/A	N/A
FCOT (B&W)	From Ready	Less than 18 sec	Less than 18 sec
	From Idle	Less than 50 sec	Less than 50 sec
	From Coldboot	Less than 50 sec	Less than 50 sec
FCOT (Color)	From Ready	Less than 36 sec	Less than 36 sec
	From Idle	Less than 75 sec	Less than 75 sec
	From Coldboot	Less than 75 sec	Less than 75 sec
Zoom Range		25% to 400% for Platen 25% to 100% for ADF	25% to 400% for Platen 25% to 100% for ADF
Multi Copy		1~99	1~99
Preset		[Original(100%)] [A4 → A5(71%)] [LGL → LTR(78%)] [LGL → A4(83%)] [A4 → LTR(94%)] [EXE → LTR(104%)] [A5 → A4(141%)] 25%, 50%, 150%, 200%, 400% [Custom: 25-400%)]	[Original(100%)] [A4 → A5(71%)] [LGL → LTR(78%)] [LGL → A4(83%)] [A4 → LTR(94%)] [EXE → LTR(104%)] [A5 → A4(141%)] 25%, 50%, 150%, 200%, 400% [Custom: 25-400%)]
Original Type	Text	Scan: 600x300dpi , Printing : 600x600dpi	Scan: 600x300dpi , Printing : 600x600dpi
	Text/Photo	Scan: 600x300dpi , Printing : 600x600dpi	Scan: 600x300dpi , Printing : 600x600dpi
	Photo	Platen) Scan : 600x600dpi, Printing : 1200x1200dpi ADF) Scan : 600x300dpi, Printing : 600x600dpi	Platen) Scan : 600x600dpi, Printing : 1200x1200dpi ADF) Scan : 600x300dpi, Printing : 600x600dpi
Automatic Background Suppression		Yes(Mono Only)	Yes(Mono Only)
Darkness Control		3 level	3 level
Collation Copy		Yes(ADF Only), flushing if Memory full	Yes(ADF Only), flushing if Memory full
Special Copy	ID Card Copy	Yes(Platen Only)	Yes(Platen Only)
	Auto fit	Yes(Platen Only)	Yes(Platen Only)
	Margin Shift	No	No
	Book Copy	No	No
	Auto Suppression	No	No
	Covers	No	No
	Transparencies	No	No
	Create Booklet	No	No
	N-up copy	2-up, 4-up (ADF only)	2-up, 4-up (ADF only)
	Clone	Yes (Platen Only)	Yes (Platen Only)
	Poster	Yes(Platen Only, x9 Only)	Yes(Platen Only, x9 Only)

2.2.5 Fax

CLX-3160 Series		CLX-3160N Spec.	CLX-3160FN Spec.
Compatibility		N/A	ITU-T G3
Communication System		N/A	PSTN/PABX
Modem Speed		N/A	33.6Kbps
TX Speed		N/A	3sec
Compression		N/A	MH/MR/MMR/JBIG/JPEG
Color Fax		N/A	Default (But Memory Transmission & Any Reserved Transmission are not supported.)
ECM		N/A	Yes
Resolution	Std	N/A	203x98dpi
	Fine	N/A	203x196dpi
	S.Fine	N/A	300x300dpi
Scan speed	Std	N/A	3sec/LTR (ADF)
	Fine	N/A	5sec/LTR (ADF)
	S.Fine	N/A	6sec/LTR (ADF)
Multiple page scan speed		N/A	20 ppm/LTR
Telephone Features	Handset	N/A	No
	On hook Dial	N/A	Yes
	Search	N/A	Yes(Phone Book)
	1-Touch Dial	N/A	30
	Speed Dial	N/A	240 locations
	TAD I/F	N/A	Yes
	Tone/Pulse	N/A	Selectable in Tech Mode
	Pause	N/A	Yes
	Auto Redial	N/A	Yes
	Last Number Redial	N/A	Yes
	Distinctive Ring	N/A	Yes
	Caller ID	N/A	No
	External Phone Interface	N/A	Yes
Functions	Mail Box	N/A	No
	Voice Request	N/A	No
	TTI	N/A	Yes
	RTI	N/A	Yes
	Polling	N/A	No
	Earth/Recall	N/A	No
	Auto Reduction	N/A	Yes
	SMS	N/A	No
	RDC	N/A	Yes

CLX-3160 Series		CLX-3160N Spec.	CLX-3160FN Spec.
Report & List Print out	Tx/Rx Journal	N/A	Yes
	Confirmation	N/A	2 types available (with Image TCR, w/o image TCR)
	Auto Dial List	N/A	Yes
	System Data List	N/A	List all user setting
Sound Control	Ring Volume	N/A	Yes(Off,Low,MED,HIGH)
	Key Volume	N/A	Yes(On,Off)
	Speaker	N/A	Yes(On,Off)
	Alarm Volume	N/A	Yes(On,Off)
Junk Fax barrier		N/A	Yes
Security Receive		N/A	Yes
Battery Backup		N/A	Yes (Up to 43 hours target)
Rx fax duplex print out		N/A	No
Receive Mode		N/A	Fax, TEL, Ans/Fax
Capacity		N/A	4MB(320 Pages, Mono)
Optional Memory		N/A	No
Max locations to store to 1 Group Dial		N/A	240 locations
Fax Forward to FAX		N/A	Yes(On/Off), both Sent and Received
Fax Forward to e-mail		N/A	No
Broadcasting		N/A	up to 249 locations
Cover page		N/A	No
Delayed fax		N/A	Yes (Tx only, Mono only)
Memory RX		N/A	Yes
Mail Box (Electronic)		N/A	No
Voice Request		N/A	No
TTI		N/A	Yes
RTI		N/A	Yes
Polling		N/A	No
Earth/Recall		N/A	No
Auto Reduction		N/A	Yes (On,Off)

2.2.6 Paper Handling

CLX-3160 Series		CLX-3160N Spec.	CLX-3160FN Spec.
Standard Capa.		150-sheet Semi Cassette Tray	150-sheet Semi Cassette Tray
Max. Capa.		400 sheets @75g/㎡	400 sheets @75g/㎡
Printing	Max. Size	216 x 356mm (8.5" x 14")	216 x 356mm (8.5" x 14")
	Min. Size	76 x 127 mm (3" x 5")	76 x 127 mm (3" x 5")
	Margin(T/B/L/R)	4 mm, 4 mm, 4 mm, 4 mm	4 mm, 4 mm, 4 mm, 4 mm
Multi-purpose tray			
Capacity		1 sheet	1 sheet
Media sizes		76 x 127 mm (3" x 5") ~ 216 x 356 mm (8.5" x 14")	76 x 127 mm (3" x 5") ~ 216 x 356 mm (8.5" x 14")
Media type		Plain Paper, Thick Paper, Thin Paper, Bond Paper, Color Paper, Card Stock, Labels Transparency, Envelope, Preprinted Cotton,Recycled Paper, Archive	Plain Paper, Thick Paper, Thin Paper, Bond Paper, Color Paper, Card Stock, Labels Transparency, Envelope, Preprinted Cotton,Recycled Paper, Archive
Media weight		16~43lb (60 to 163g/㎡)	16~43lb (60 to 163g/㎡)
Sensing		Paper detection sensor	Paper detection sensor
Standard Cassette Tray - Semi cassette type			
Capacity		150 sheets @ 75g/㎡	150 sheets @ 75g/㎡
Media sizes		76 x 127 mm (3" x 5") ~ 216 x 356 mm (8.5" x 14")	76 x 127 mm (3" x 5") ~ 216 x 356 mm (8.5" x 14")
Media types		Envelopes, Labels, Card stock, Transparency(mono only) Papers (Pre-printed, recycled)	Envelopes, Labels, Card stock, Transparency(mono only) Papers (Pre-printed, recycled)
Media weight		16~43lb (60 to 163g/㎡)	16~43lb (60 to 163g/㎡)
Size sensor		N/A	N/A
User Interface		No indicator, Cover	No indicator, Cover
Sensing		Paper detection sensor	Paper empty sensor
Optional Cassette Tray			
Capacity		250 sheets	250 sheets
Media sizes		A4,Letter,Legal, Folio, A5	A4,Letter,Legal, Folio, A5
Media types		Plain Paper	Plain Paper
Media weight		16~24lb (60 to 90g/㎡, ,)	16~24lb (60 to 90g/㎡, ,)
Size sensor		N/A	N/A
User Interface		No Indicator	No Indicator
Sensing		Paper empty sensor	Paper empty sensor
Output Stacking			
Capacity	FaceUp	N/A	N/A
	FaceDown	100sheets @ 75g/㎡	100 sheets @ 75g/㎡
Output Full sensing		Yes	Yes

CLX-3160 Series	CLX-3160N Spec.	CLX-3160FN Spec.
Duplex		
Supporting	Manual	Manual
Throughput	N/A	N/A
Media sizes	N/A	N/A
Media types	N/A	N/A
Media weight	N/A	N/A
ADF		
Paper Weight	12.5~28lb (Non Coating)	12.5~28lb (Non Coating)
Capacity	50 sheets (20lb, 75 g/㎡)	50 sheets (20lb, 75 g/㎡)
Document Size	Width: 142 ~ 216mm (5.6" ~ 8.5") Length : 148 ~ 356mm (5.8" ~ 14.0")	Width: 142 ~ 216mm (5.6" ~ 8.5") Length : 148 ~ 356mm (5.8" ~ 14.0")
Dimension	460(W)x 3430(D) x 95(H) mm	460(W)x 343(D) x 95(H) mm
Weight	5.6kg (,)	5.6kg (,)

2.2.7 Consumables

CLX-3160 Series		CLX-3160N Spec.	CLX-3160FN Spec.
CRU			
No. of CRUs		6 (C/M/Y/K toner, Imaging Unit, Waste toner box) K toner: CLX-K3160A C toner: CLX-C3160A M toner : CLX-M3160A Y toner: CLX-Y3160A Imaging unit: CLP-R300A (CLP-300 Series) Waste toner box: CLP-W300A (CLP-300 Series) CMY Rainbow kit: CLX-P3160A	6 (C/M/Y/K toner, Imaging Unit, Waste toner box) K toner: CLX-K3160A C toner: CLX-C3160A M toner : CLX-M3160A Y toner: CLX-Y3160A Imaging unit: CLP-R300A (CLP-300 Series) Waste toner box: CLP-W300A (CLP-300 Series) CMY Rainbow kit: CLX-P3160A
Toner	Black	2,000 A4/Letter pages, at ISO-19752 Std. Coverage, Semi glossy	2,000 A4/Letter pages, at ISO-19752 Std. Coverage, Semi glossy
	Color	1,000 A4/Letter pages, at ISO-19752 Std. Coverage, Semi glossy	1,000 A4/Letter pages, at ISO-19752 Std. Coverage, Semi glossy
	Key	Unique, Electronic key(CRUM)	Unique, Electronic key(CRUM)
	Life detect	Toner Level Sensor Remain % method 90% : warning 100% : empty 120% : hardstop	Toner Level Sensor Remain % method 90% : warning 100% : empty 120% : hardstop
	Replace method	CMY key 3 step for install/replacing	CMY key 3 step for install/replacing
Imaging Kit (OPC+Deve)	Yield	Approx. 20K black pages (or 12.5K color pages)	Approx. 20K black pages (or 12.5K color pages)
	Key	Unique, Electronic key(CRUM)	Unique, Electronic key(CRUM)
	Sensor	None, that would be traced via software	None, that would be traced via software
	Replace method	6 steps for install/replacing	6 steps for install/replacing
Waste Toner Bottle	Yield	1,250 sheets (Full Color Std. Image) or 5,000 images	1,250 sheets (Full Color Std. Image) or 5,000 images
	Key	N/A	N/A
FRU			
No. of FRUs		4 (ITB, Fuser, T2 roller, Pick-up roller)	4 (ITB, Fuser, T2 roller, Pick-up roller)
ITB	Yield	Approx. 60K black pages (or 15K color pages)	Approx. 60K black pages (or 15K color pages)
	Key	None	None
	Sensor	None	None
Fuser	Yield	100,000 sheets B&W or 50,000 sheets Color	100,000 sheets B&W or 50,000 sheets Color
	Key	None	None
T2 Roller	Yield	100,000 sheets, Replacable	100,000 sheets, Replacable
	Key	None	None
Pick-up Roller	Yield	50,000 sheets, Replacable	50,000 sheets, Replacable
	Key	None	None
ADF Lubber PAD		100K	100K
ADF Pickup Roller		100K	100K

2.2.8 Reliability & Service

CLX-3160 Series		CLX-3160N Spec.	CLX-3160FN Spec.
Printing Volume(AMPV)		360 page / B&W, 240 page / Color	360 page / B&W, 240 page / Color
Max Monthly Duty		24,200 images	24,200 images
MPBF		40,000 pages (color 29,091 Mono 10,909 Total 40,000 image)	40,000 pages (color 29,091 Mono 10,909 Total 40,000 image)
MTTR		< 30 min.	< 30 min.
SET Life Cycle		200,000 image or 5 years	200,000 image or 5 years
Real-time Clock		None	None
System-record		Total image count Total page count (color/mono) Imaging unit life Fuser lifeTransfer roller life Transfer unit life Toner image count (CMYK) Tray roller life Cartridge Coverage Machine Installed date	Total image count Total page count (color/mono) Imaging unit life Fuser lifeTransfer roller life Transfer unit life Toner image count (CMYK) Tray roller life Cartridge Coverage Machine Installed date
Test Print		Configuration Sheet Network Configuration Sheet	Configuration Sheet Network Configuration Sheet
RDC	Comm. Mode	N/A	N/A
	Operation	N/A	N/A
Temperature	Operating	10 ~ 32.5 (59 ~ 90.5F)	10 ~ 32.5 (59 ~ 90.5F)
	Storage (Packed)	-20 ~ 40 (-4 ~ 104F)	-20 ~ 40 (-4 ~ 104F)
Humidity	Operating	30 ~ 80% RH	30 ~ 80% RH
	Storage (Packed)	30 ~ 85% RH	30 ~ 85% RH

2.2.9 Environment

CLX-3160 Series		CLX-3160N Spec.	CLX-3160FN Spec.
Acoustic Noise Level(Sound Power/Pressure)	Printing	Less than 49.0 dBA (B/W printing)	Less than 49.0 dBA (B/W printing)
	Copying	Less than 52.0 dBA	Less than 52.0 dBA
	Standby	Less than 35 dBA	Less than 35 dBA
	Sleep	Background noise level	Background noise level
Input Voltages		110-127 VAC, 50/60Hz	110-127 VAC, 50/60Hz
		220-240 VAC, 50/60Hz	220-240 VAC, 50/60Hz
		Power Switch	Power Switch
Power Consumption	Ready	Less than 160w	Less than 160w
	AVG.	Less than 350W *Currency : 5A(110V) / 3A(220V)	Less than 350W *Currency : 5A(110V) / 3A(220V)
	Max/Peak	700W/1KW	700W/1KW
	Sleep/Power Off	Less than 30W	Less than 30W
Certification	Telecommunication	N/A	N/A
	Environmental	Energy star, TCO99 or TCO03/Swan/ Blue Angel, PTS (BAM)	Energy star, TCO99 or TCO03/Swan/ Blue Angel, PTS (BAM)
	Safety	Europe : TUV(GS), SEMKO(IEC950/ EN60950), CB	Europe : TUV(GS), SEMKO(IEC950/ EN60950), CB
	EMC/EMI	FCC Class B	FCC Class B
		CE class B	CE class B
Emission	Ozone	0	0
	Dust	0	0
	Styrene	0	0
	VOC	0	0
Dimension (W x D x H)	Set(mm)	460(W)x429(D)x486(H)	460(W)x429(D)x486(H)
	Set Packing	610(W)x570(D)x638(H)	610(W)x570(D)x638(H)
Weight	Set (with consumables)	19.5 Kg	19.5 Kg
	Set Packing	26.0 Kg	26.0 Kg
	Consumable	- Imaging Unit : 3.2 Kg - Toner Cartridge(C/M/Y each) : 0.102 Kg - Toner Cartridge(Black) : 0.176 Kg	- Imaging Unit : 3.2 Kg - Toner Cartridge(C/M/Y each) : 0.102 Kg - Toner Cartridge(Black) : 0.176 Kg
	Consumable Packing	- Imaging Unit : 4.0 Kg - Toner Cartridge(C/M/Y each) : 0.110 Kg - Toner Cartridge(Black) : 0.180 Kg	- Imaging Unit : 4.0 Kg - Toner Cartridge(C/M/Y each) : 0.110 Kg - Toner Cartridge(Black) : 0.180 Kg

2.2.10 Packing & Accessory

CLX-3160 Series	CLX-3160N Spec.	CLX-3160FN Spec.
In-Box	Set C/M/Y/K to be installed Power cord USB cable (China, Korea, India, Russia) Set-up CD (Driver, manual), Application N/W CD (SyncThru, manual) Quick installation Guide sheet Warranty book	Set C/M/Y/K to be installed Power cord USB cable (China, Korea, India, Russia) Set-up CD (Driver, manual), Application N/W CD (SyncThru, manual) Quick installation Guide sheet Warranty book

2.2.11 Options

CLX-3160 Series	CLX-3160N Spec.	CLX-3160FN Spec.
Second Cassette	250-sheet SCF	250-sheet SCF
Memory	N/A	N/A
PostScript	N/A	N/A
Network	Default	Default
Wireless Network	N/A	N/A
Hard Disk	N/A	N/A
Duplex Unit	N/A	N/A

2.3 Model Comparison Table

	Canon MF8170C	Ricoh	Samsung CLX-3160FN
Image			
Function	Print/Copy/Scan/NW/Fax	Print/Copy/Scan/NW	Print/Copy/Scan/NW
Engine Speed	16/4 ppm	31/8 ppm	B/W 16ppm, Color 4ppm
Size (WxDxH)	510 x 513 x 587 mm	460 x 420 x 515 mm	460 x 432 x 484 mm
Consumable	5K K toner 4K CMY toner 20K Drum	9.8K K toner 6.5K CMY toner 60K 11K Waste box	2K K toner 1K CMY toner 60K 1.25K sheet Waste box

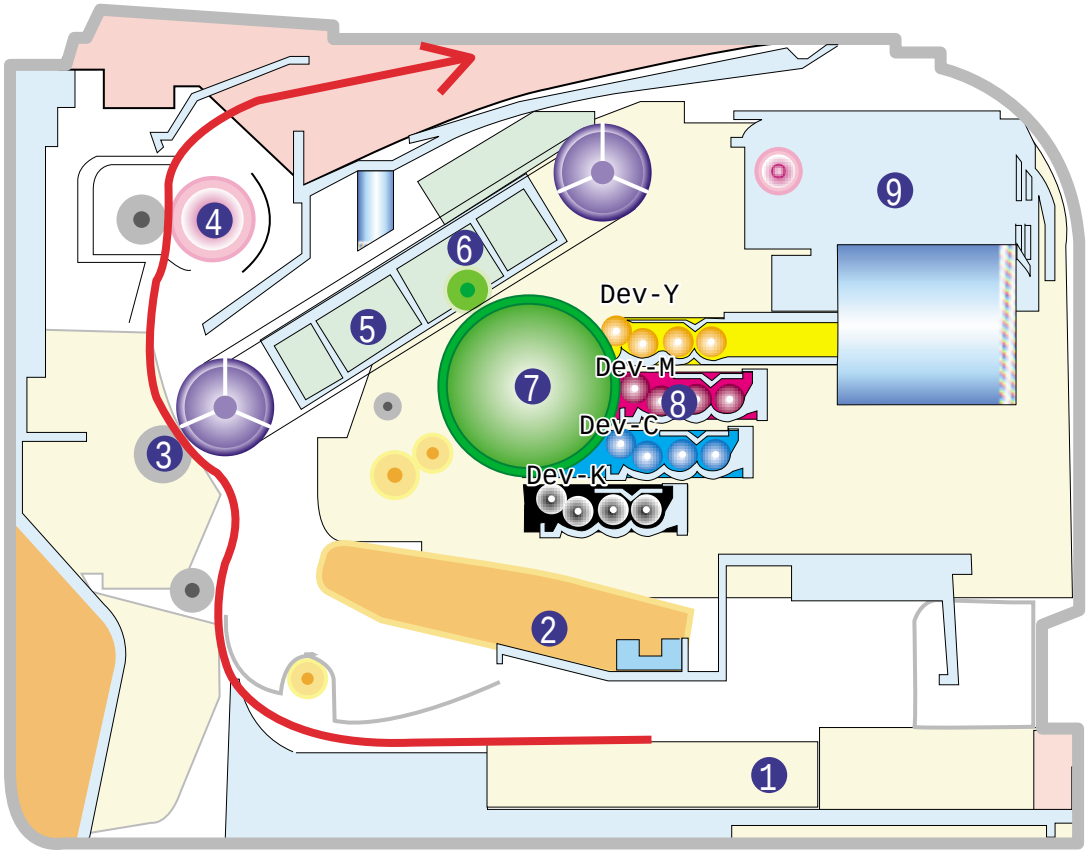
3. System Overview

This chapter describes the functions and operating principles of the main components.

3.1 System Structure

3.1.1 Main Parts of System

Engine Part



1. Paper Cassette Input
2. Paper Cassette Output
3. 2nd Transfer Roller
4. Fuser
5. ITB (Intermediate Transfer Belt)
6. 1stTransfer Roller
7. OPC (Organic Photo Conductor)
8. Developers (Y, M, C, & K)
9. Toner Kits (Y, M, C, & K)

❶ Cassette

· Feeding Method : Cassette Type
· Feeding Standard : Center Loading
· Feeding Capacity : Cassette 150 Sheets(75g/㎡, 20lb Paper Standard)
No Manual Feeder
· Paper Detecting Sensor : Photo Sensor (Empty, Registration, Exit)
· Paper Size Sensor : None

❷ LSU(Laser Scan Unit)

· Consisted of LD(Laser Diode) and Polygon Motor Control.

Error	Phenomenon
Polygon Motor Error	The Rotation of Polygon Motor can not reach stable
Hsync Error	Though the rotation of Polygon Motor reach stable, the signal of Hsync is not occurred

❸ 2nd Transfer Ass'y

· The life span: Print over 100,000 sheets (in 15~30 ℃)
· Specification: Similar to CLP-300 Series

❹ Fuser Ass'y

· Heat Lamp : New Part - Knuckle Type
· Heat Roller : Similar to CLP-300 Series
· 2 Pressure Roller : One is similar to HummingBird, the Other is a new added part comparing with other Fuser
· Thermistor - Temperature-Measuring Device
· Thermostat - Critical Temperature-Detecting Device
· Fusing Temp. (180℃)
· H/W Protection Temp. (185℃)

❺&❻ ITB(Intermediate Transfer Belt) & 1st Transfer Roller

· The life span: Print over 100,000 Images
· The ITB unit includes 1st Transfer Roller

❼&❽ OPC(Organic Photo-Conductor) & Developer

· The life span: Print over 44,000 Images (Both)
· Imagine Unit consists of 4 kinds of Developer , OPC, and Deve. Main Frame

❾ Toner Kits

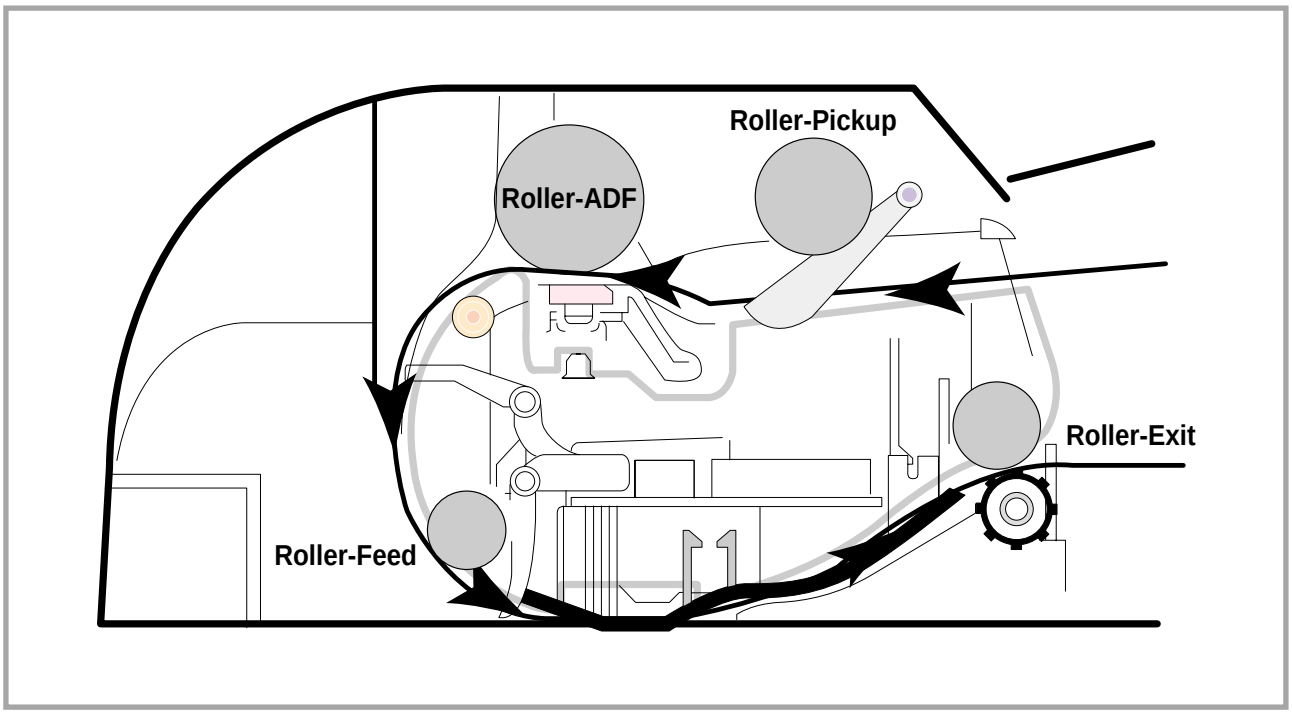
· The life span: Color -> 1000 images (Std. Coverage Print-Out)
Black -> 2000 images (Std. Coverage Print-Out)

Driver Ass'y

· It is a power delivery unit by gearing
· By driving the motor, it supplies the power to the feeding unit, the fusing unit, and the distributing unit.
· The Main Motor is similar to CLP-300 Series Main Motor.

3.1.2 Scanner(ADF)

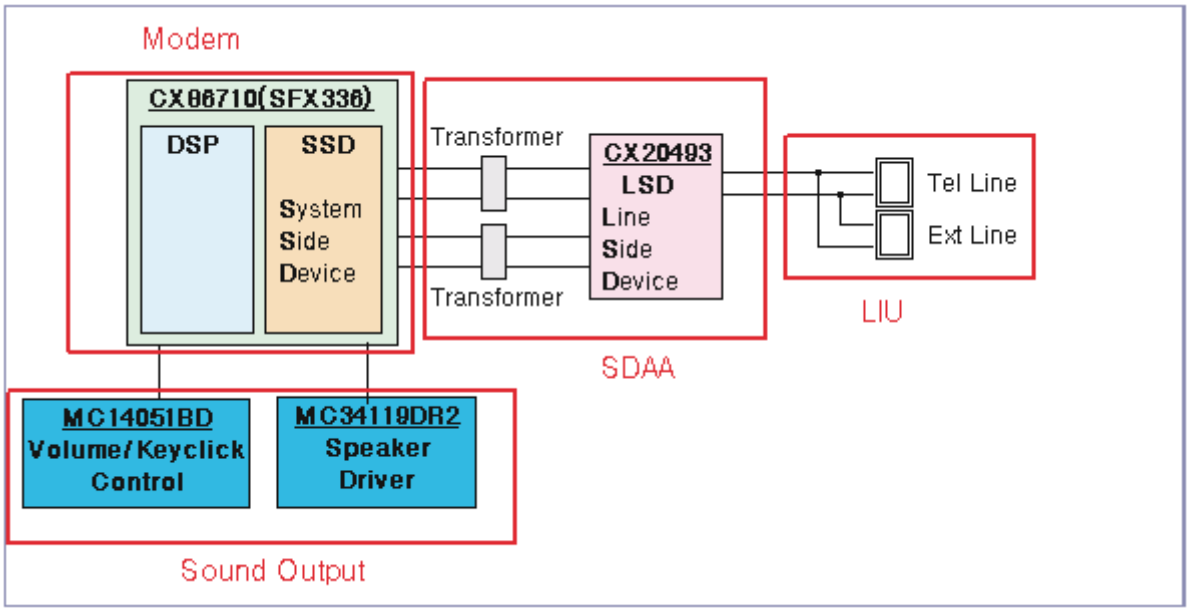
- 3 in 1 : CLX-3160N
- 4 in 1 : CLX-3160FN
- Scanning Method: Color CCD(600 x 1200 dpi)
- Scan speed : SDMP 28cpm/MDSP 20cpm



3.1.3 FAX Section

Modem Part

BLOCK DIAGRAM



Implemented by based on Conexant DAA (Data Access Arrangement) Solution, and is roughly composed of two kinds Chip Solution

- CX86710 (SFX336): Existing Modem Chip which adds SSD (System Side Device) for interfacing between LSD and DIB of FM336Plus Core

- CX20493 (LSD) : LIU (Line Interface Unit) Chip which is controlled by SSD and satisfies each PSTN Requirements by modulating internal Configuration with connecting Tel Line.

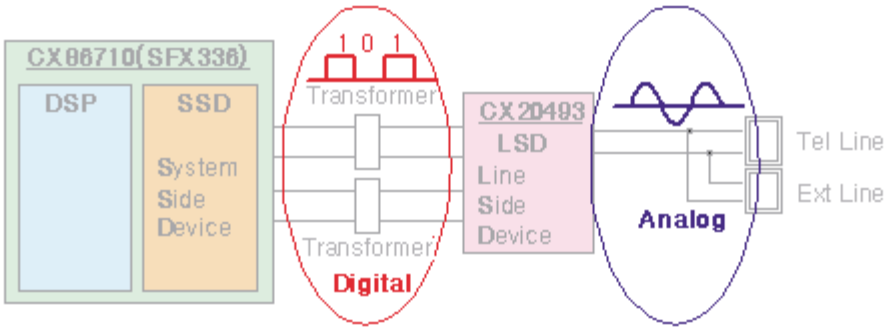
Modem (SFX336) specification.

- 2-wire half-duplex fax modem modes with send and receive data rates up to 33,600 bps
- V.17, V.34, V.29, V.27 ter, and V.21 Channel 2
- Short train option in V.17 and V.27 ter
- PSTN session starting
- V.8 and V.8bis signaling
- HDLC support at all speeds
- Flag generation, 0-bit stuffing, ITU CRC-16 or CRC-32 calculation and generation
- Flag detection, 0-bit deletion, ITU CRC-16 or CRC-32 check sum error detection
- FSK flag pattern detection during high-speed receiving
- Tone modes and features
- Programmable single or dual tone generation
- DTMF receiver
- Tone detection with three programmable tone detectors
- Receive dynamic range:
- 0 dBm to -43 dBm for V.17, V.29, V.27 ter and V.21 Channel 2
- 9dBm to -43 dBm for V.34 half-duplex
- Digital speaker output to monitor received signal
- Two16-byte FIFO data buffers for burst data transfer with extension up to 255 bytes
- V.21 Channel 1Flag detect
- V.21 Channel 1Flag detect
- +3.3V only operation
- Typical power consumption
- Normal mode: 264 mW

Signal Transition of DAA Solution

Line Interface Signal of Tel Line and LSD is Analog Signal.

2) there is A/D, D/A Converter in LSD, so Analog Signal from Tel Line is converted in Digital through A/D Converter in DAA and transfer to SSD by DIB Capacitor
Digital Signal from SSD is converted to Analog by D/A Converter in DAA and transfer to Tel Line



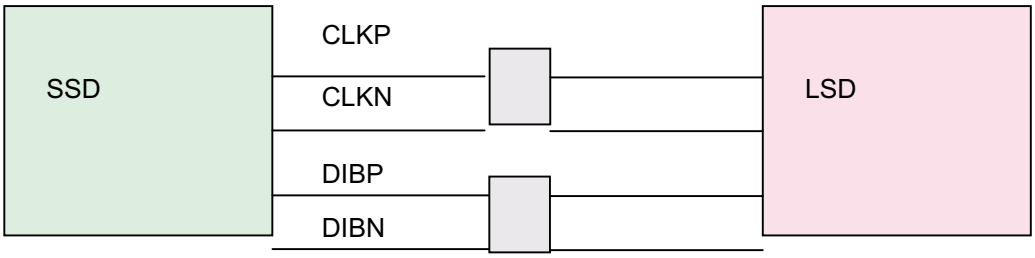
Transformer transfer Clock from SSD to LSD and Clock Frequency is 4.032MHz.

LSD full wave rectifies Clock to use as inner Power supply and also use as Main Clock for DIB Protocol Sync between LSD and SSD. Transformer transfer Clock by separating Primary and Secondary, and
amplifies Clock Level to LSD by Coil Turns Ratio 1:1.16.

■ Clock

- Clock is supplied by transformer from SSD to LSD, and there is PWROUT to adjust output impedance of Clock

Out Driver is inside SSD and CLKSHIGH Resistor to adjust duty of HLPWR Resistor and Clock.



Clock from SSD to LSD has Differential structure of 180 phase difference for Noise Robustness

DIB Data transfer Data from SSD to LSD by Transformer, and also transfer specific data from LSD to SSD.

After transferring data from SSD, RSP is transferred and LSD recognizes RSP and change LSD to output Driver transfer Data to SSD.

DIB Data form SSD to LSD by Transformer has Differential structure of 180 phase difference between DIBP and DIBN for Noise Robustness

3.1.4 Line Interface Part

This is Connection Part between system and PSTN(Public Switched Telephone Network), and primary circuit is usually located. Main functions are Line Interface, Telephone Connection and Line Condition Monitoring.

1 Telephone Line Connection

① Modular Plug : RJ-11C

② LIU PBA Modular Type : 623 PCB4-4

③ Line Code Length : 2500 ± 50mm

④ Line Code Color : Black

ON HOOK state Characteristic

1) DC Resistance

① DP Dial Mode (Direct Current 30mA) : 50 ~ 300ohm

② DTMF Dial Mode (Direct Current 20mA) : 50 ~ 540ohm

2) Ring Sensitivity

① Ring detection Voltage : 40Vrms ~150Vrms (condition : Current = 25mA, Frequency = 15Hz)
product Margin : 30Vrms ~150Vrms

② Ring detection Frequency : 15.3Hz ~68Hz (condition : Voltage = 45Vrms, Current = 25mA)
product Margin : 15Hz ~70Hz

③ Ring detection Current : 20mA ~ 100mA (condition : Voltage = 40Vrms, Frequency = 20Hz)
product Margin : over 15mA

3) False Ring Sound

① Ring Frequency : 750 Hz + 1020 Hz

② Ring interrupt Cycle : On/Off depending on input Ring Signal Cycle.

3.1.5 Scan Part

Pictorial signal input part: output signal of CCD passes through Bypass Cap change to ADC at HT82V26, and defined signal between HT82V26 and CHORUSm processes the Image signal. When AFE accept each pixel, CDS(Correlated Double Sampling) technique which samples arm-level twice is used on each pixel by using CIP4e signal.

2) Pictorial image processing part: read CCD Pixel data in terms of 600dpi Line and process Error Diffusion Algorithm on Text mode and Photo mode, and then store Data at Scan Buffer on PC Scan mode without algorithm.

On every mode Shading Correction and Gamma Correction are executed ahead, then processing is executed later.

* Scan Image Control Specification

① Minimum Scan Line Time : 0.7062ms

② Scan Resolution : Max. 600DPI

③ Scan Width : 216mm

④ main function

- Internal 12bit ADC
- White Shading Correction
- Gamma Correction
- CCD Interface
- 256 Gray Scale

3) CCD Operating Part : CCD Image sensor use +5V and Inverter uses +24V

- CCD Maximum Operating Frequency : 10MHz
- CCD Line time : 0.7062ms
- White Data output Voltage : 0.7V ±0.5V (Mono Copy, 0.75ms/line)
- Maximum Inverter Current : 600 mA Max.(+24V)

3.1.6 OPE Pannel Section

(1) Configuration

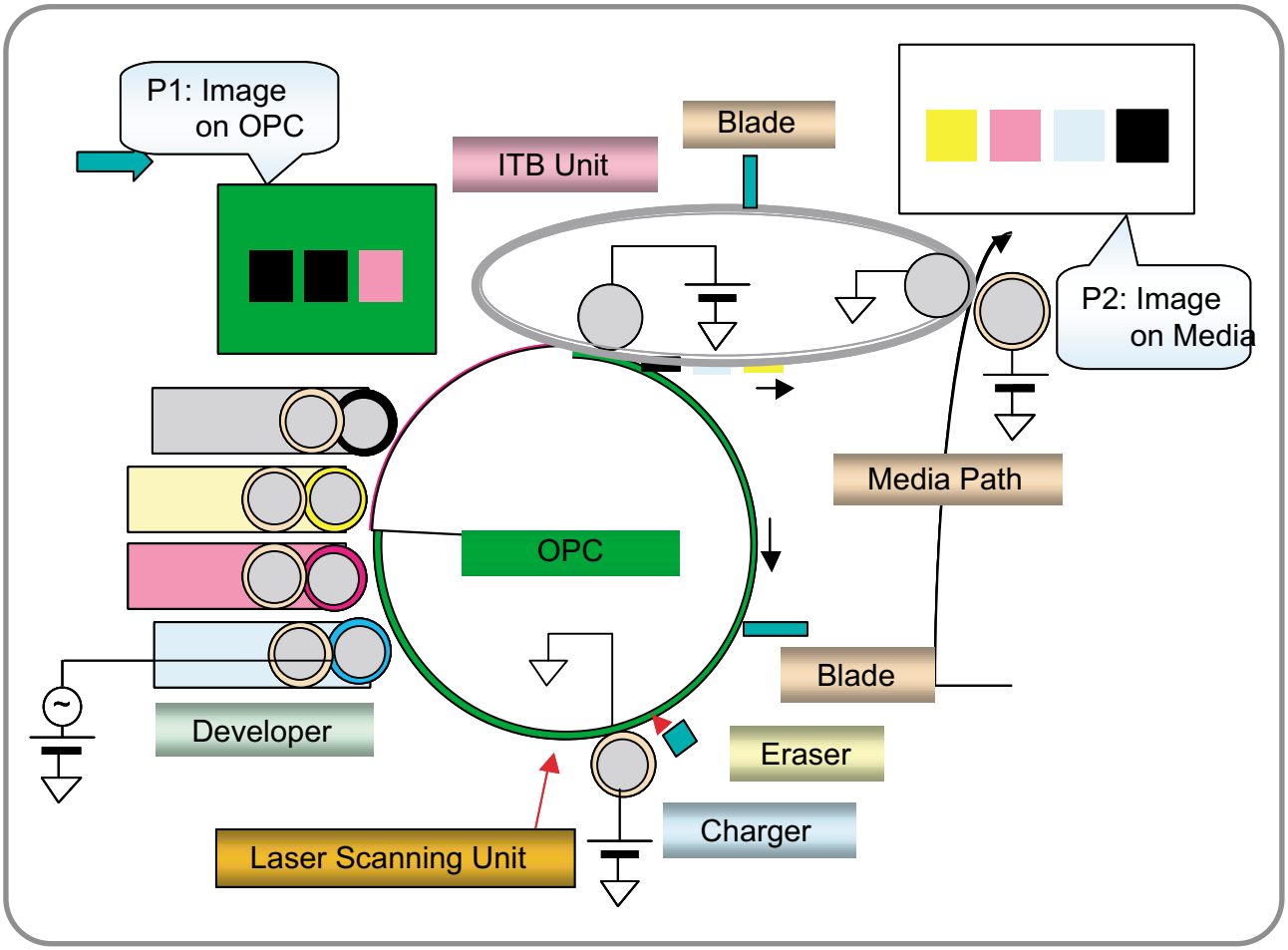
Operations Panel uses Main Control and separated OPE Chip Micom and work as inner program,
systemic operation is serial system which exchange Date with SIO Port of Main Control. OPE Panel is approximately composed of Micom part, Matrix part and LCD.

(2) Micom controller

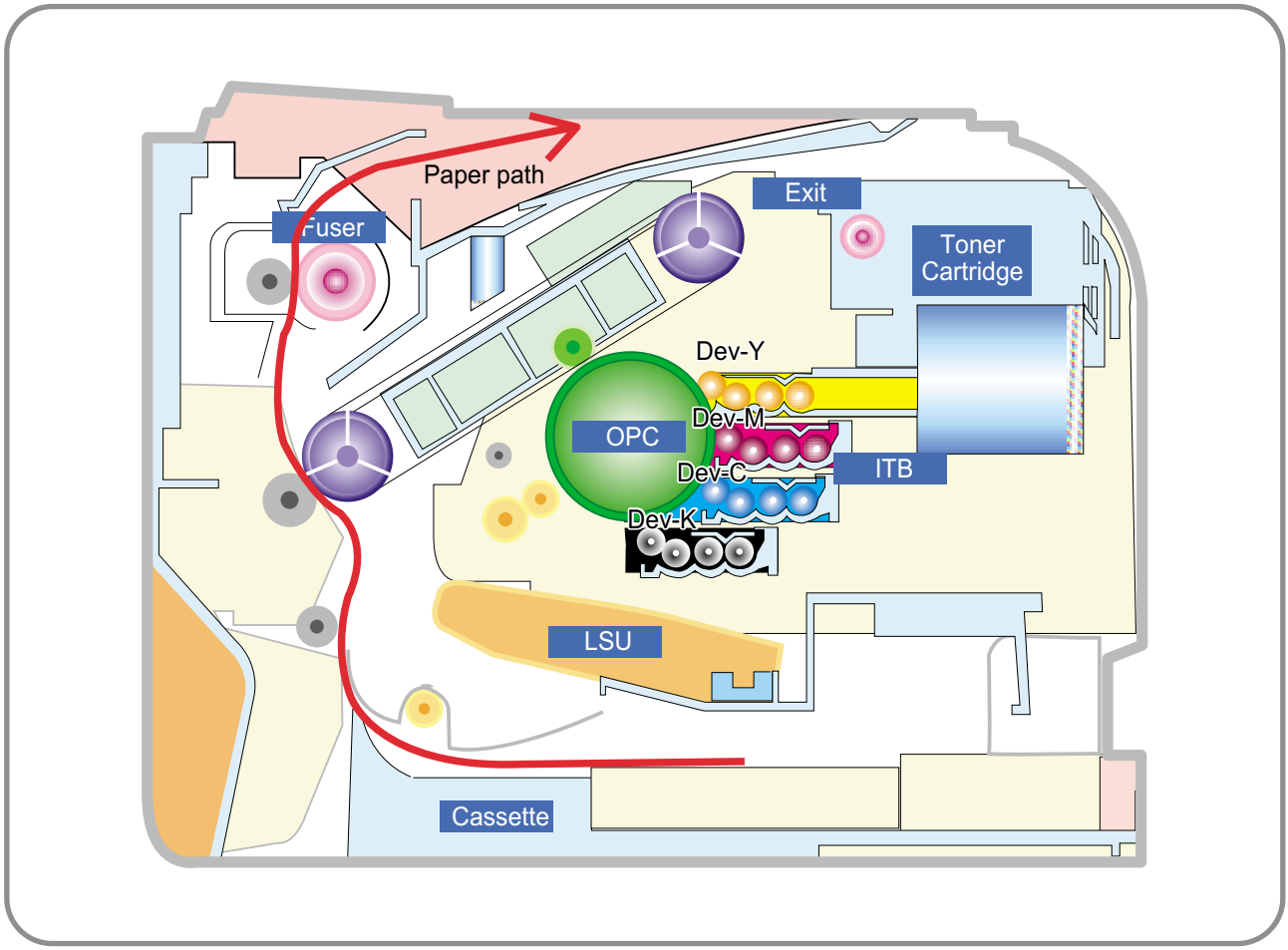
Micom has ROM, RAM, I/O Port built-in and displays and lights LCD by CPU command of Main Control Part and report Key recognition Data to Main Control Board.

3.1.7 EP Process

- Structure of EP Process



- System Outline



❶ Charging

- · Conductive Roller charging
- · Roller resistivity : ~ 10^5 ohm-cm
- · Applied voltage : -1.1kV
- · Charge acceptance : -520V
- · OPC coating thickness : 21um
- · OPC diameter : ⌀60mm
- · Non eraser system

1. Organic Photoconductor is charged to uniform voltage by conductive roll charging method
2. No ozone is produced because corona is not used
3. Charger roll is cleaned with cleaning roll
4. Toner remained on OPC after T1 process is cleaned by cleaning blade and retrieved into waste toner box by auger and belt driving mechanism

❷ Exposing

- · One polygon motor (6 facet)
- · Single beam LD (1ea)
- · LD wavelength : 785nm
- · Polygon motor rpm : 23747.5
- · LSU energy : 0.25uJ/cm^2
- · OPC exposed potential : -50V

1. Exposing is implemented by laser striking on to OPC with uniform potential
2. Laser beam is modulated according to image to be printed that is from PC
3. Latent Image is formed on OPC, which is developed with toner

❸ Developing

- · Non-magnetic, mono component
- · Non-contact development
- · Developing bias : DC + AC
- · AC peak to peak : 1.5 ~ 2.0kV
- · Mass on developing roller : 550 ~ 600ug/cm^2
- · Toner coulomb : 15 ~ 20uC/g
- · Roller diameter : ϕ10mm
- · Roller resistivity : 10^5 ~ 10^6 ohm-cm
- · Process speed ratio : 1.2 (OPC=1.0)
- · Color order : Y -> M -> C -> K

1. Only latent image formed by exposing process is developed with toner
2. AC + DC Voltage is being used to develop toner into latent image on OPC because non-contact developing method is adopted
3. Y, M, C, and K Images are sequentially developed onto OPC and transferred onto Intermediate Transfer Belt (hereafter ITB) to form a color image on ITB
4. Toner Bottles are used to supply toner into developer compartment
5. Toner level is being sensed to control toner supply from toner bottle to developer

❹ Transfer 1

- · Multi-pass transfer
- · Indirect transfer
- · Transfer voltage : 0.5 ~ 2.0kV (controllable)
- · Roller diameter : ϕ14mm
- · Roller resistivity : ~ 10^7 ohm-cm
- · Belt resistivity : 10^9 ~ 10^11 ohm-cm
- · Environment sensing by Y-transfer roller
- · Transfer unit life : 50K images

1. Developed Image on OPC is transferred onto ITB by T1 Process
2. T1 Voltage is positive which attract toner to ITB
3. 4 times of T1 process is required to make a color image on ITB, which means multi-pass process
4. ITB has a hole as a fiducial mark for timing. Engine control for color image is synchronous with it, ITB Home Sensing Signal

❺ Transfer 2

· Indirect transfer
· Transfer voltage : 1 ~ 4.0kV (controllable)
· Roller diameter : ϕ18.6mm
· Roller resistivity : ~ 10^7 ohm-cm
· Belt resistivity : 10^9 ~ 10^11 ohm-cm
· Transfer unit life : 50 K images

1. Color image formed on ITB is transferred onto media by T2 process
2. T2 voltage is also positive to get color image moved onto media
3. Toner remained on ITB after T2 process is cleaning by ITB cleaning blade and collected and
4. Transported and retrieved into waste toner box by auger and belt driving system
5. T2 Roll is engaged when color image is being transferred onto media. Otherwise it is disengaged. Clutch is used for driving T2 Roll engagement and disengagement

❻ Fusing

· 3 Roll system
  -> short warm-up time (45sec)
· Post Pressure Roll

1. Color Image on media is melted down and fixed into media by fusing process

3.1.8 Copier Section

Copy Mode:	Black and White
Scanner Type; Maximum Size of Original: (max. width = 218 mm, max length = 400 mm)	CCD with Flatbed/Platen and ADF -Platen: 216 x 297 mm -ADF: Legal (216 x 356 mm)
Optical Resolution:	600 x 600 dpi
Copy Quality - H x V: (User selectable via Content button)	-Text : 600 x 300 dpi (default) -Text/Photo : 600 x 300 dpi -Photo : 600 x 600 dpi
Supported Media Types: Copy Speed: (SDMP = Single Document, Multiple Printout, MDSP = Multiple Document, Single Printout)	Plain, Label, Cardstock, Transparency -Platen, SDMP: 30cpm (Letter) -ADF, SDMP: 30cpm (Letter) -ADF, MDSP: 20cpm (A4, Text or Text/Photo) 10cpm (A4, Photo)
Reduce/Enlarge:	-Platen: 25% - 400% (1% increments) -ADF: 25% - 100% (1% increments)
Non-printable Area:	4 mm (Top, Bottom, and each Side)
Copy Count: (Page count displayed on LCD during copy operation)	1 to 199
Copy Modes:	Text, Text/Photo, Photo
Fixed R/E Setting:	100%, Auto-fit, 2(4)-Up
Darkness Control:	3 levels
First Copy Output Time (FCOT):	-Platen: 8.5 sec. (600 x 300 dpi) -ADF: 15 sec. (600 x 300 dpi)

3.1.9 Telephone Section

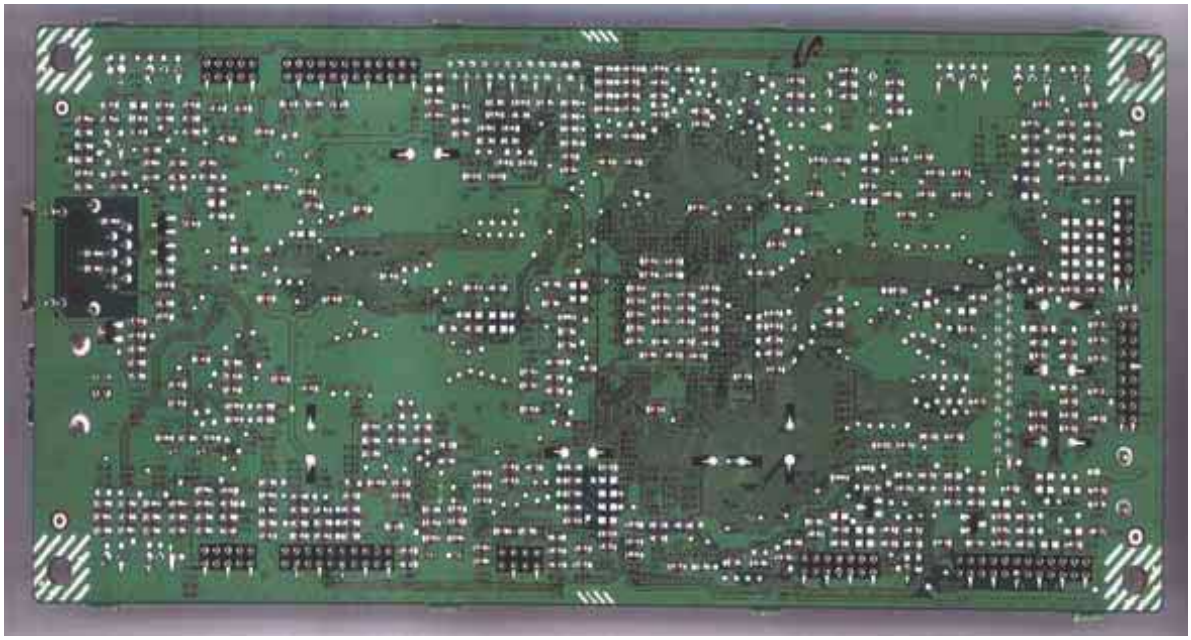
Speed Dial:	400 Locations (46 digits maximum per location)
On-hook Dial (manual fax):	Yes
Last Number Redial:	Yes
Automatic Redial:	Yes
Pause:	Yes (using Redial key)
Ringer Volume:	Off, Low, Medium, High
Tone/Pulse:	Selectable (Tech Mode Only no Telecom certification for Pulse mode)

3.2 Main PBA Description

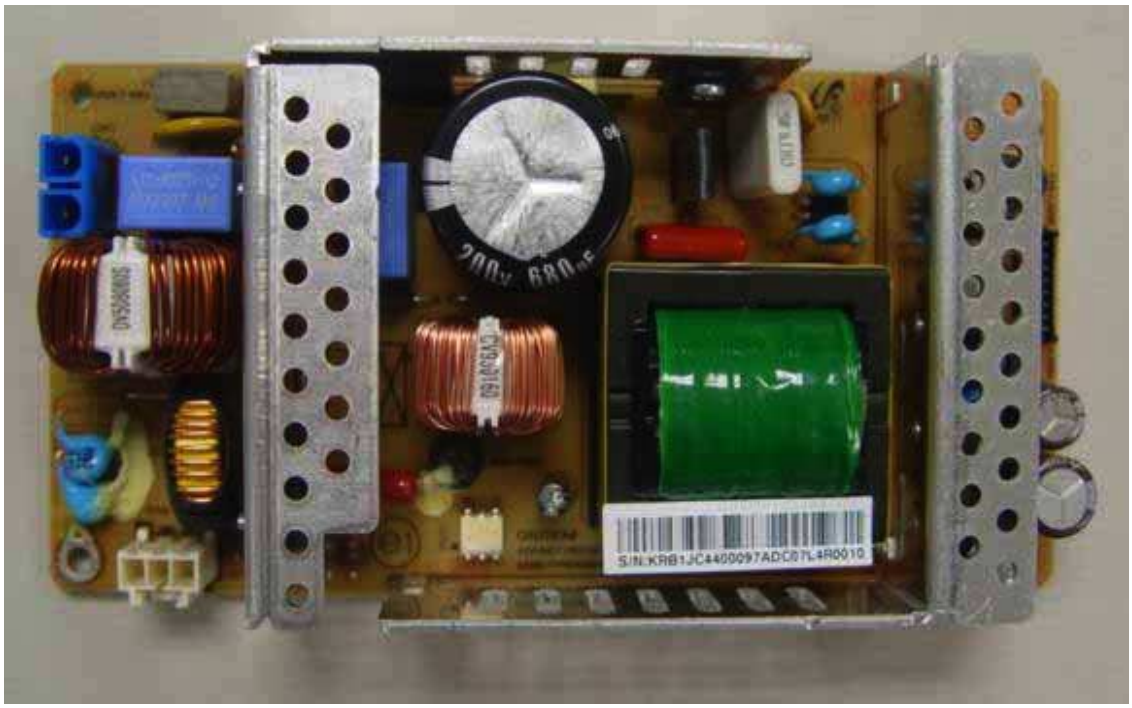
3.2.1 Print Board Assembled(PBA) Pictures

1) Top View of Main Controller

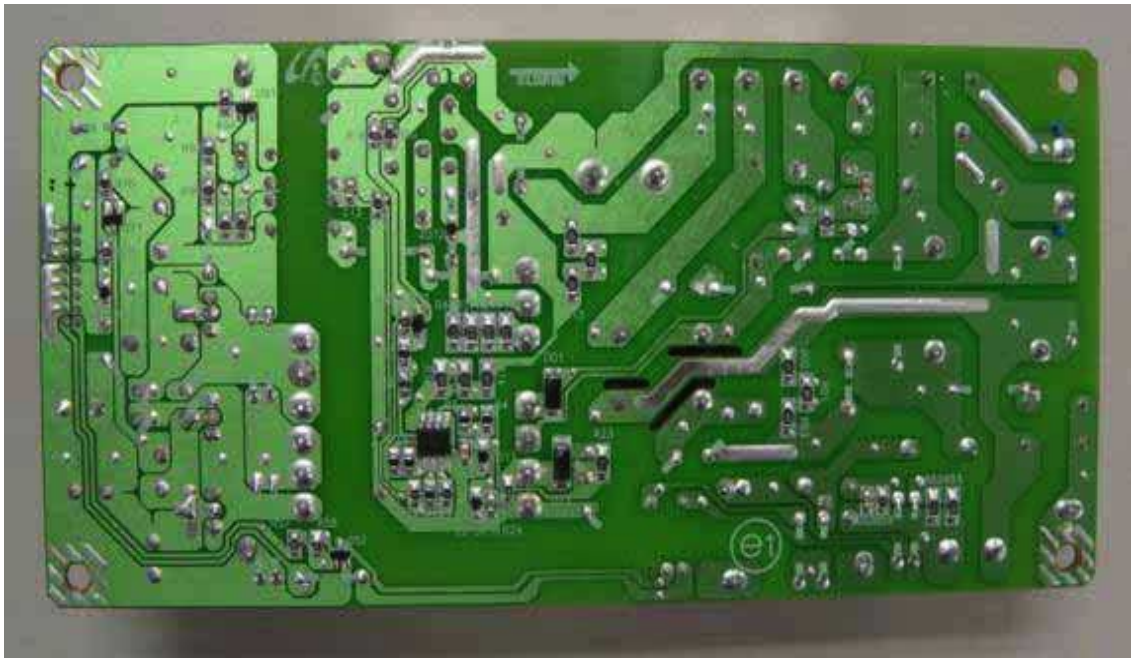
2) Bottom View of Main Controller



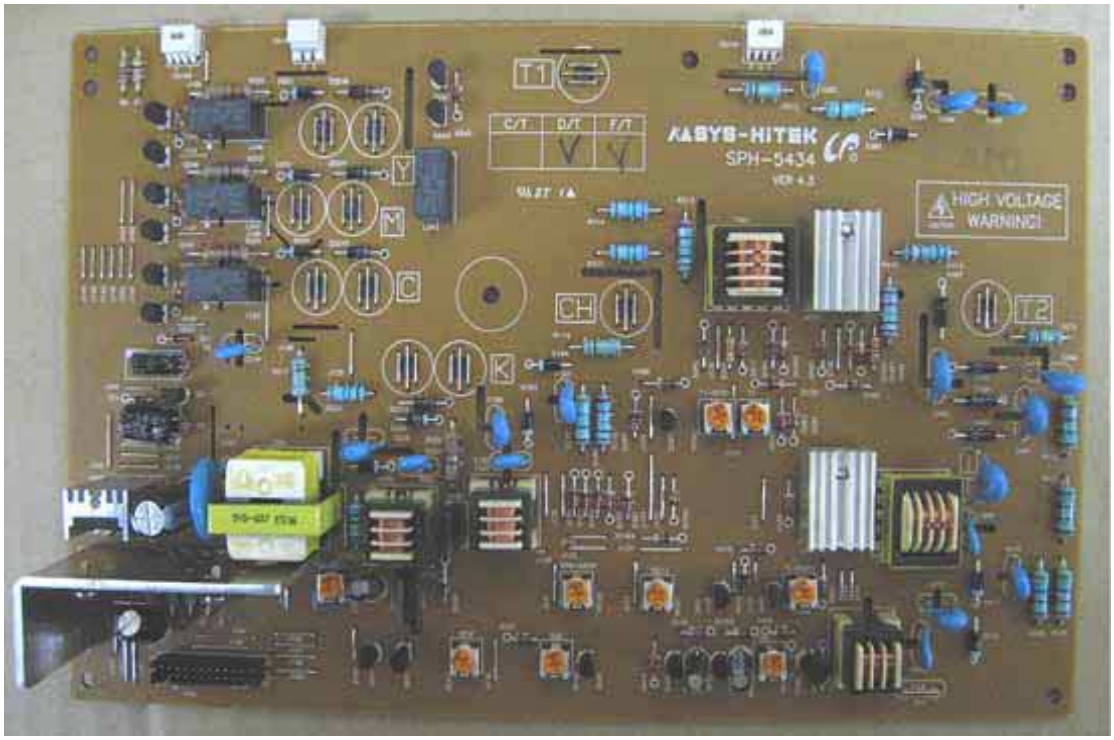
3) Top View of SMPS



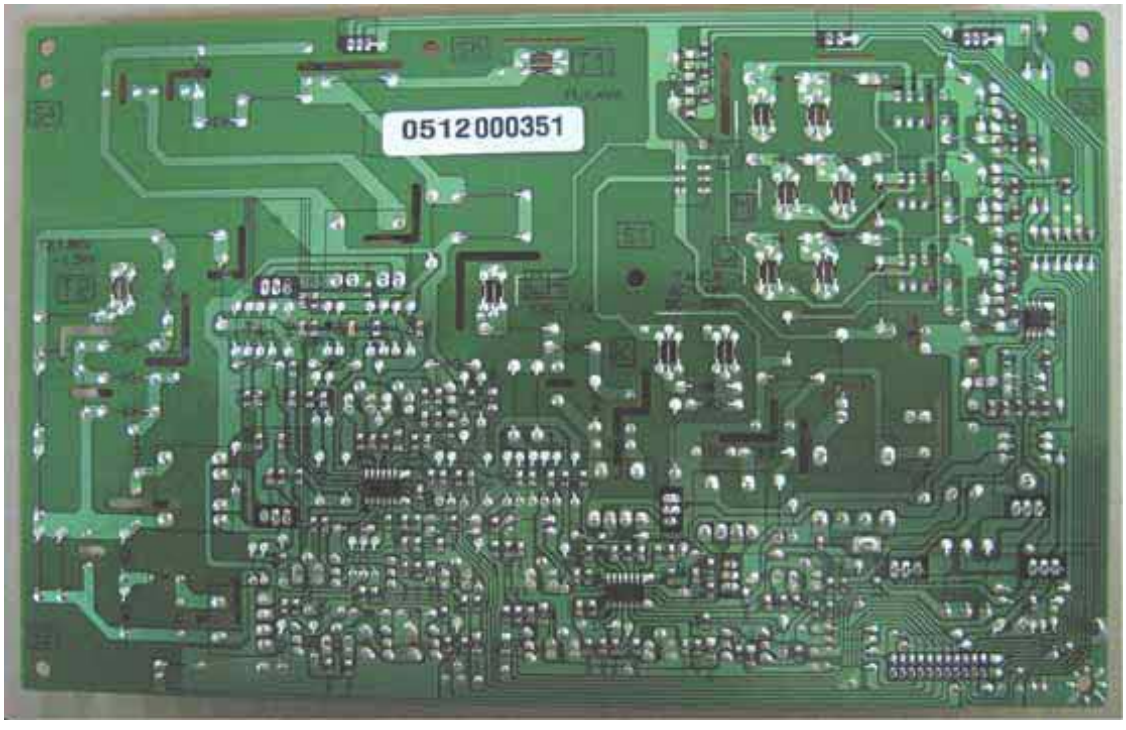
4) Bottom View of SMPS



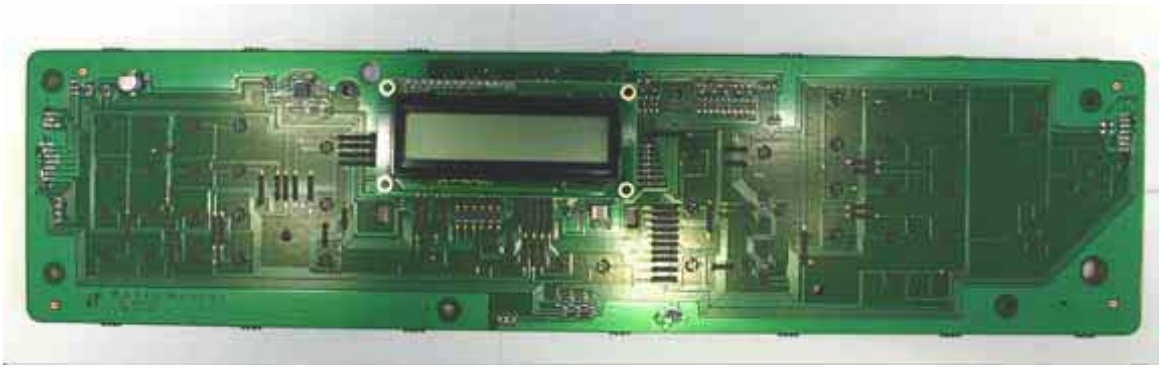
5) Top View of HVPS



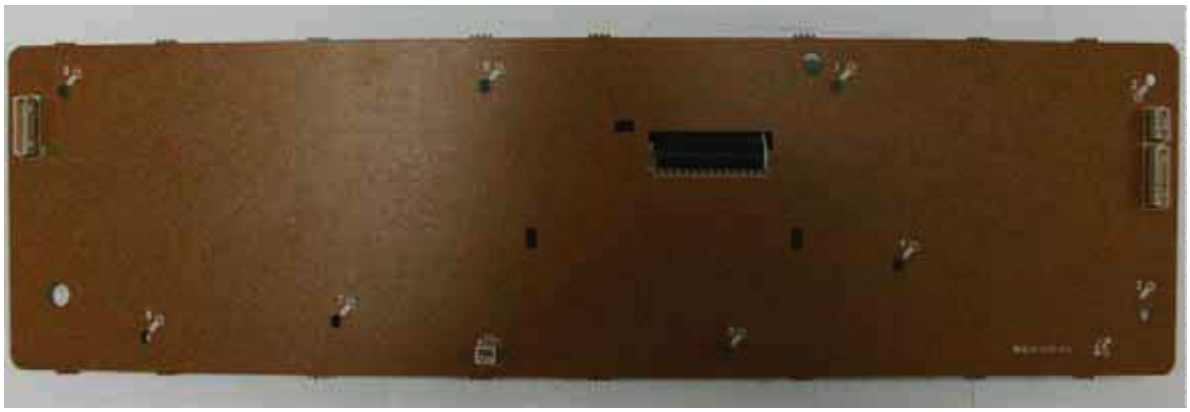
6) Bottom View of HVPS



7) Top View of OPE

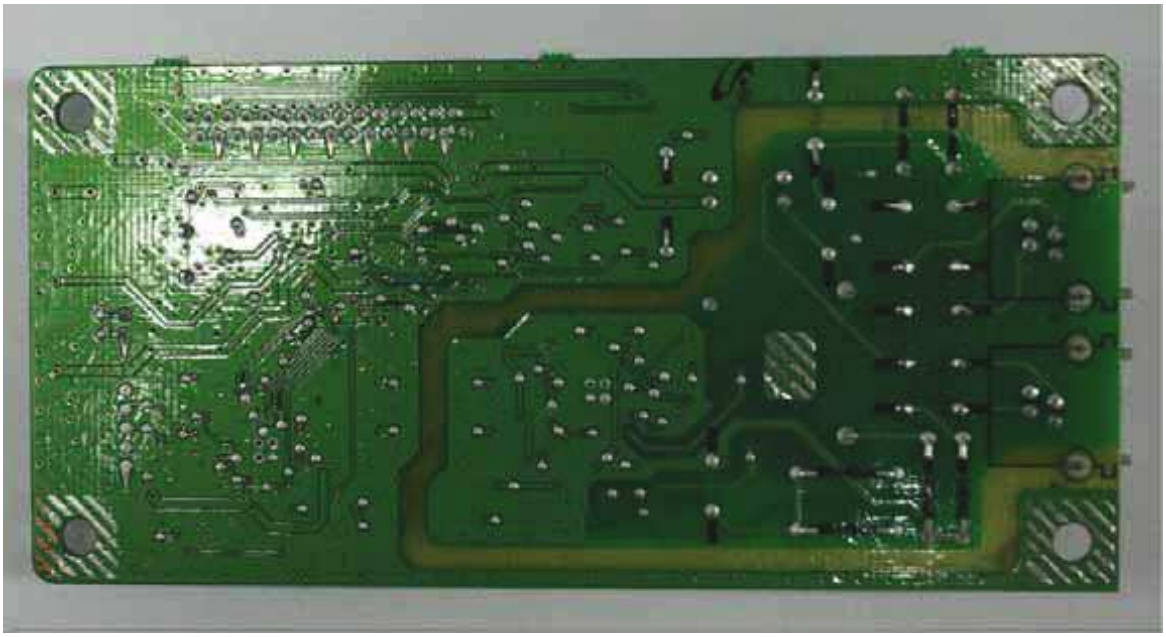


8) Bottom View of OPE

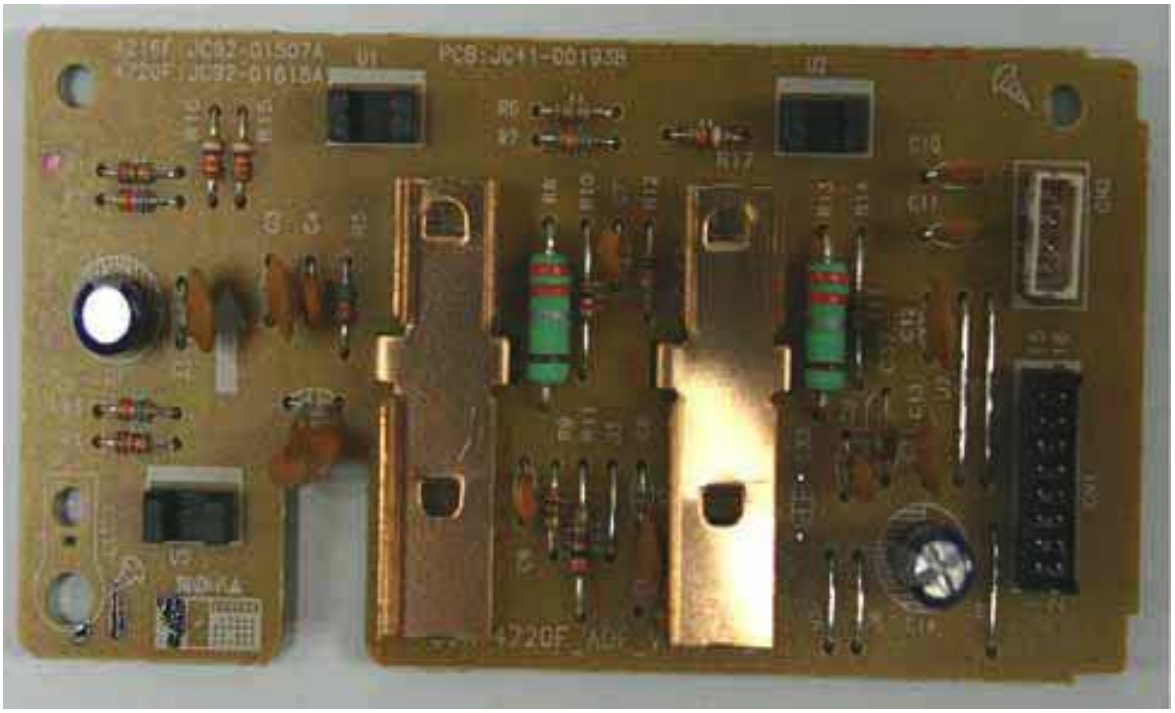


9) Top View of FAX

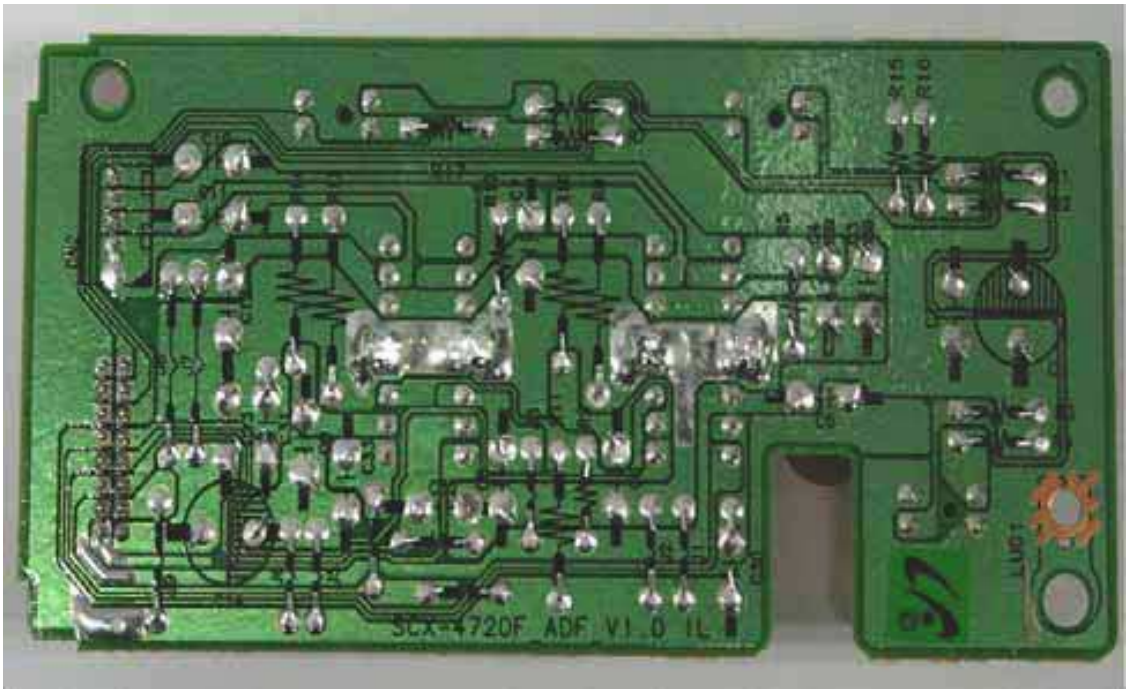
10) Bottom View of FAX



11) Top View of ADF

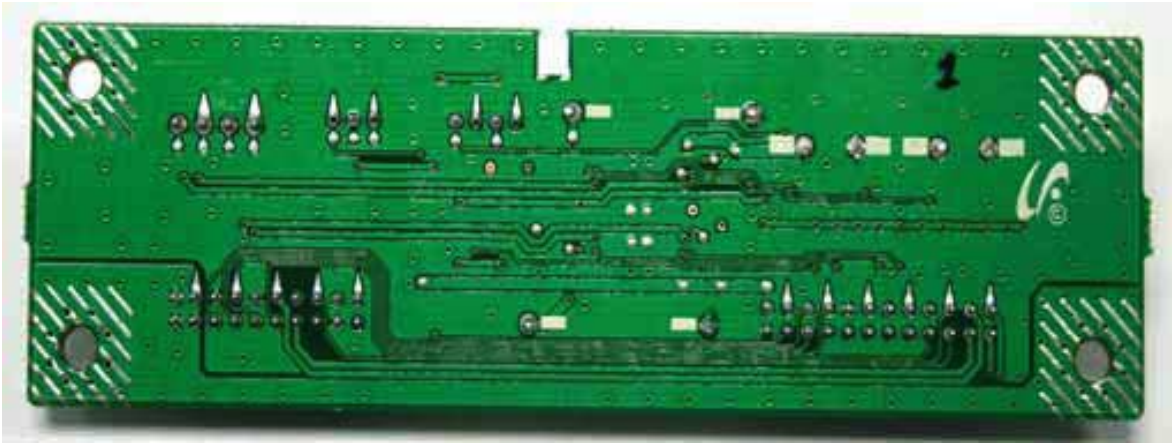


12) Bottom View of ADF

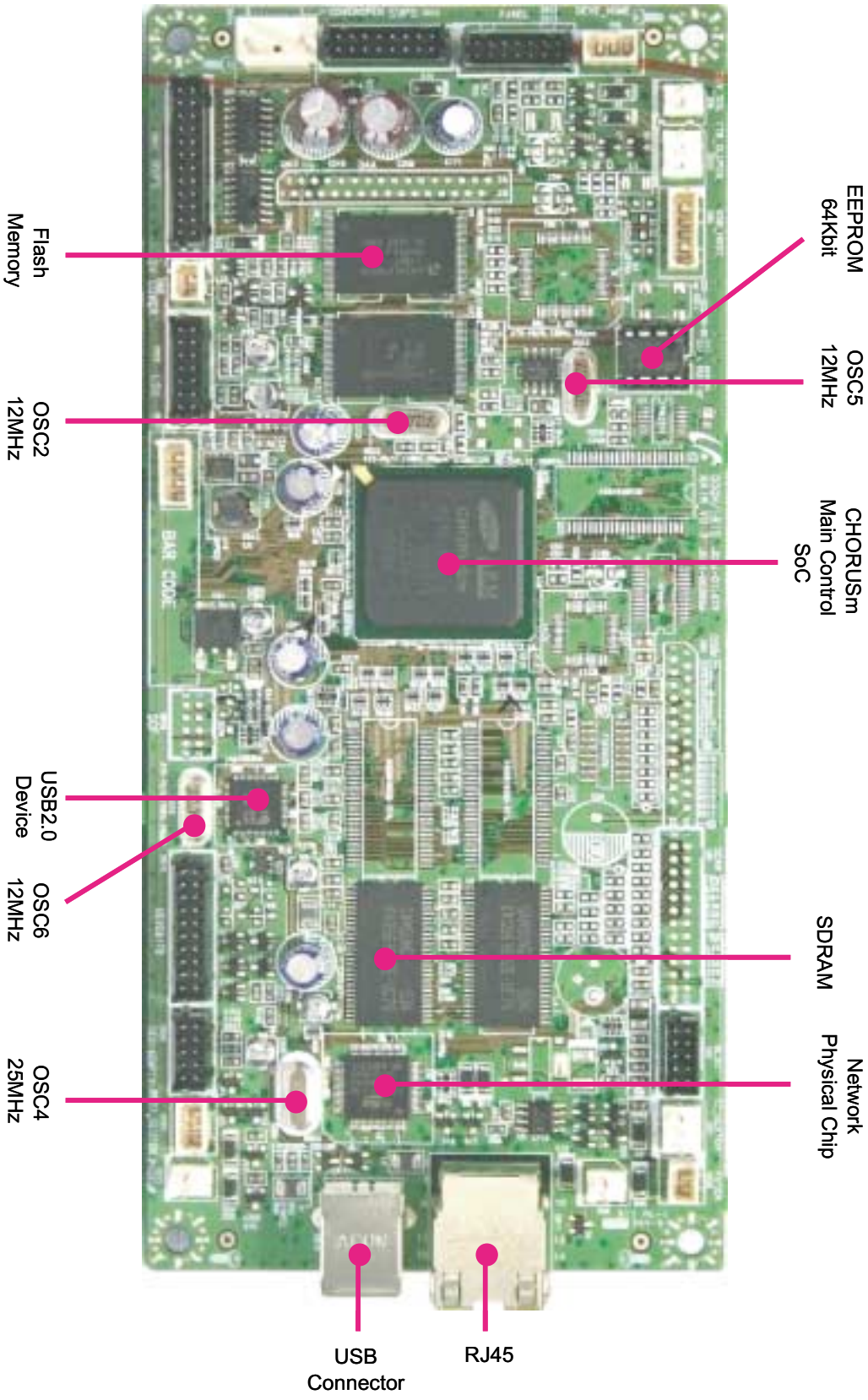


13) Top View of Joint B'D

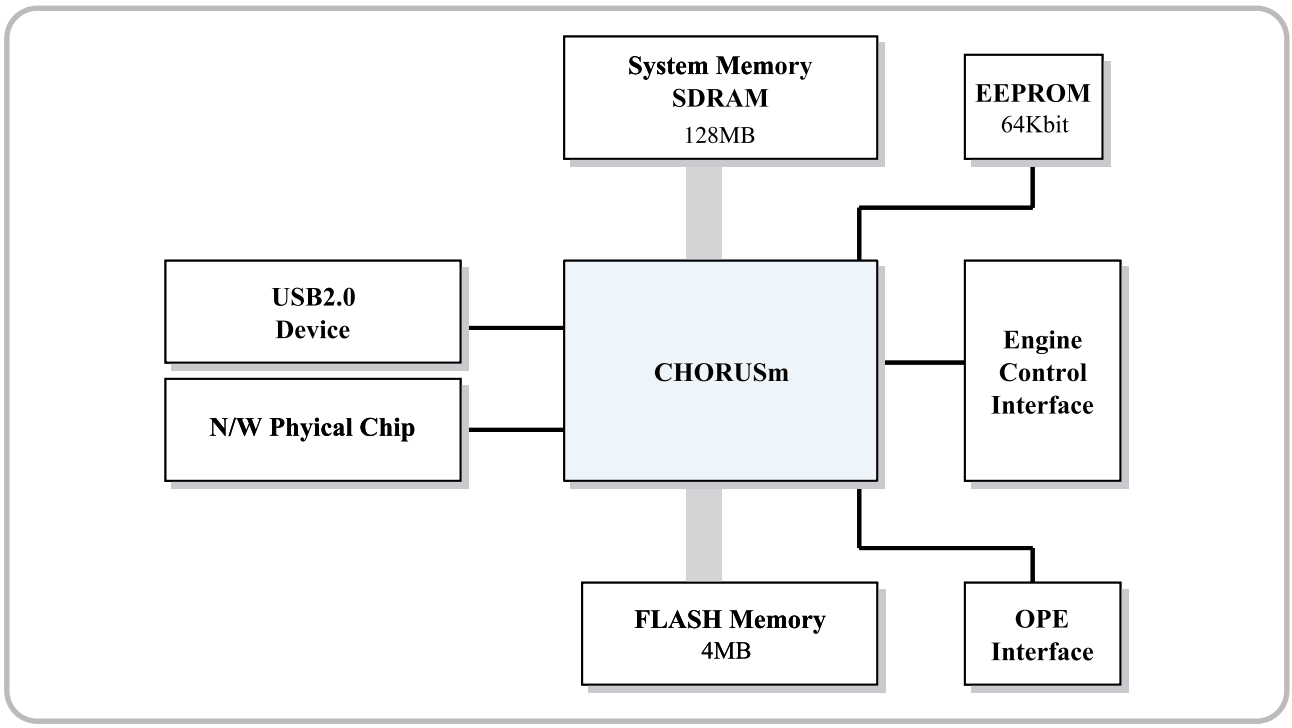
14) Bottom View of Joint B'D



3.2.2 Main PBA


Flash Memory
OSC2 12MHz
USB2.0 Device
OSC6 12MHz
OSC4 25MHz
EEPROM 64Kbit
OSC5 12MHz
CHORUSm Main Control SoC
SDRAM
Network Physical Chip
USB Connector
RJ45

3.2.3 Main PBA Description



1) CHORUSm

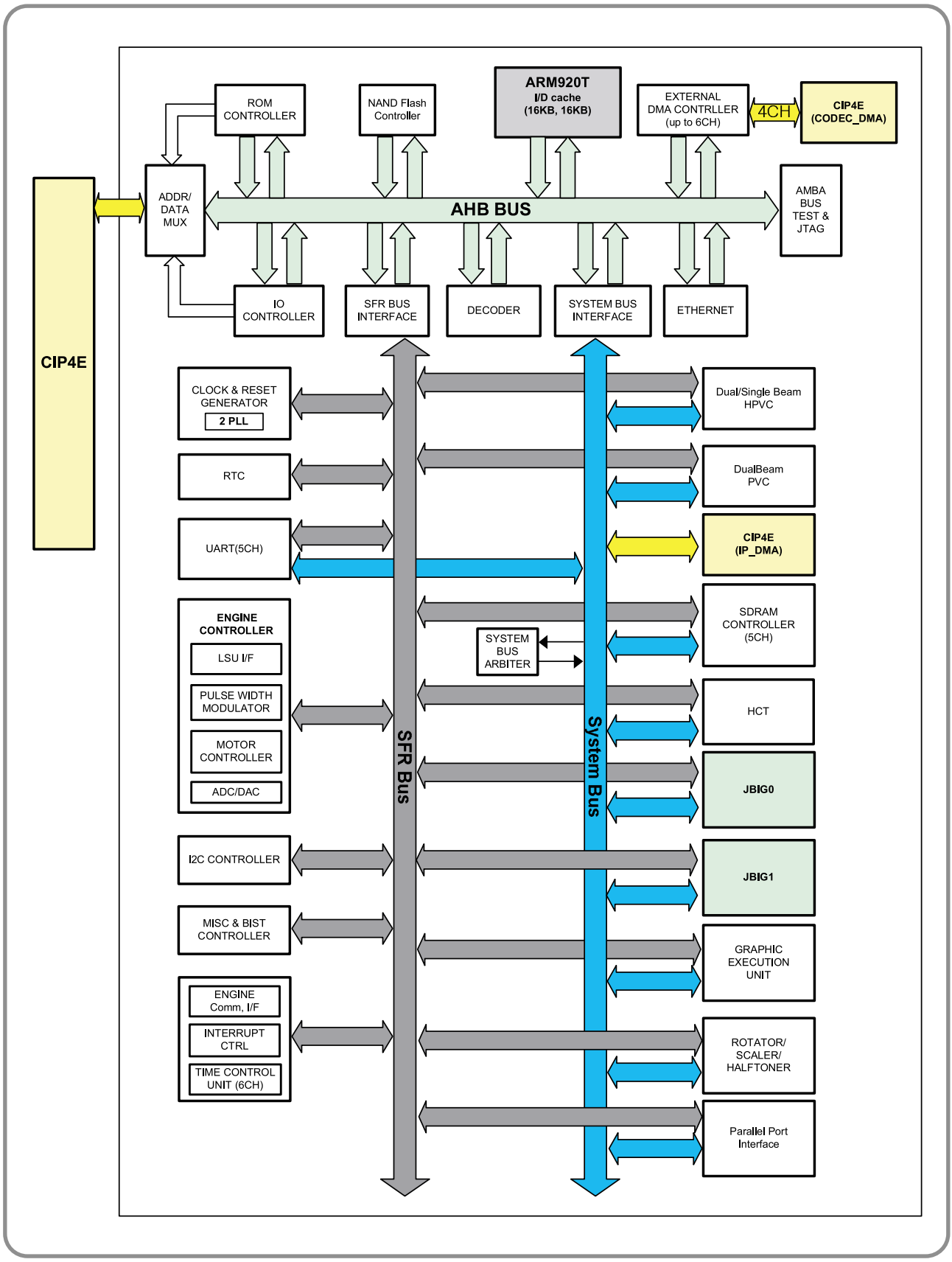
CHORUSm involves in itself the functions to control ARM Processor Core and various H/W devices. CHORUSm, therefore, controls Main PBA and all engine mechanism, processing the print job received from host and enabling the engine to print image.

≫ Function

- ▶ Process
  - · 0.13um Technology
- ▶ Package
  - · 496 PBGA
- ▶ CPU Core
  - · ARM 920T - 300MHz
  - · Cache : I-Cache 16KB, D-Cache 16KB
- ▶ System Bus
  - · 32-bit width, 100MHz
- ▶ SDRAM Controller
  - · 32-bit width, 100MHz operation
  - · 5 Banks, Up to 128MB Address space per Bank
  - · Programmable Timing to Control SDRAM A.C Characteristics
  - · Support Self Refresh for Data Retention
- ▶ ROM Controller
  - · 32-bit width, 4 Banks, Up to 16MB Address space per Bank
  - · Burst Capability
  - · Programmable Timing per Bank

- IO Controller
  - 6 Channels, Up to 16MB Address space per Bank
  - Programmable Timing per Bank
- DMA Controller
  - 6 Channels General Purpose DMA
- HPVC Controller
  - Hyper Printer Video Controller
  - High Performance DMA-based Interface to Printer Engine
  - Support Dual/Single Beam LSU, LVDS Video Output
  - Support A3, 1200dpi
- UART Controller
  - 5 Channels Indepenent Full Duplex UART
- Interrupt Controller
  - Support 6 External Interrupts
  - Support 26 Internal Interrupts
- Timer Controller
  - 6 System Timers and Watch Dog Timer for S/W Trap
- Scanner Controller
  - 300/400/600/1200dpi CIS/CCD Interface
  - Color/Mono grey image, Binary image scan support
  - 600dpi Color/Mono Copy support
  - Image Processing for High-End MFP,Digital Copier
  - MH/MR/MMR CODEC for Fax
  - Scan image : A4 1200dpi processing
  - Copy image : A4 600dpi processing
- MAC Controller
  - 10/100Mbps
  - Full IEEE 802.3 compatibility
- PPI Controller
  - IEEE1284 compliant parallel port interface
  - DMA-Based or Interrupt-Based operation
- GEU Controller
  - Graphic Engine Unit for Banding support of Printer Language
  - Scan Line Buffer, Polygon Filling
- CODEC Controller
  - 2 Channels JBIG Encoding and Decoding
- I2C Controller
  - 1 Channel, Operated at max frequency 400kHz
- RTC Controller
- Engine Controller
  - LSU Control and Interface Unit
  - 2 Channels STEP Motor Control Unit
  - 8 Channels PWM Control Unit
  - 8 Channels ADC Control Unit
  - 2 Channels DAC Control Unit

■ CHORUSm (Internal Block Diagram)



2) System Memory Block

Memory saves program and video data and print jobs received from host. Its volume is 64MB with network function and 32MB without network function. It has no separate device for extension. SDRAM is used, driven at width of 32-bit and 100MHz, and controlled by memory controller built in CHORUSm.

3) Flash Memory Block

Flash memory is the space used for saving program. Its volume is 4MB with network function and 2MB without network function. It has no separate device for extension. NOR type flash memory is used and accessed at 32-bit width burst, being controlled by the ROM controller built in CHORUSm.

4) USB2.0 Device Block

This block supports USB2.0 high speed (480Mbps). ISP1582 of Philips company is used and connected to the IO Bus of CHORUSm at 16-bit, controlled by IO controller built in CHORUSm. Through this I/O port it receives print job from host.

5) Network Block

This block has 10/100Mbps wired network function and is controlled by MAC controller built in CHORUSm. It is connected to host through physical layer chip outside, and thus receives print job from host. STE100P is used for physical layer chip.

6) EEPROM Block

System EEPROM is controlled by the I2C controller built in CHORUSm, connected to the other non-volatile memory on I2C bus. It works at the speed of 400KHz. This system EEPROM contains all drive information and production information necessary for the operation of printer. Its size is 16k-bit.

7) OPE Control

The panel is driven in the form of PIO by UART controller built in CHORUSm.

8) LSU Control

Laser Scanning Unit is controlled by LSU controller built in CHORUSm. It makes use of all functions such as Polygon Mirror Motor Control necessary for driving LSU and Synchronized Signal Generation Control, and helps to scan laser beam on the photosensitive drum to form latent image.

9) BLDC Control

It is controlled by BLDC controller built in CHORUSm. It controls the drive of printer mechanism and helps it to be driven at an equal speed.

10) Sensors Control

GPIO controller built in CHORUSm collects the status of all sensors. According to this status of sensors, it controls printer mechanism to help normal printing. There are sensors such as Paper Empty Sensor, Registration Sensor and Developer Home Sensor, etc.

11) Clutches Control

GPIO Controller built in CHORUSm controls all clutches, which help printer to do print job normally. There are clutches such as Paper Pick-up Clutch, Registration Clutch, Developer Home Clutch, ITB Clutch, T2 Clutch, Fuser Clutch, Developer Toner Supply Clutch, etc.

12) PWM Control

PWM Controller built in CHORUSm controls the parts that require PWM for normal printing, such as BLDC drive speed and HVPS high voltage level, etc.

13) ADC Control

It is controlled by ADC Controller built in CHORUSm, and is used for perception of charged voltage and current, 1st and 2nd transfer voltage and current, fusing temperature, used-up toner and toner amount, and interior temperature, etc.

14) DAC Control

It is controlled by DAC Controller built in CHORUSm and used to set standard level of light amount of LSU Laser Diode.

3.2.4 SMPS(Switching Mode Power Supply) PBA

SMPS is consisted of SMPS part which supplies DC power for driving system and AC Heat Control part which supplies power to Fuser. Standard TYPE III is used.

1) DC Output

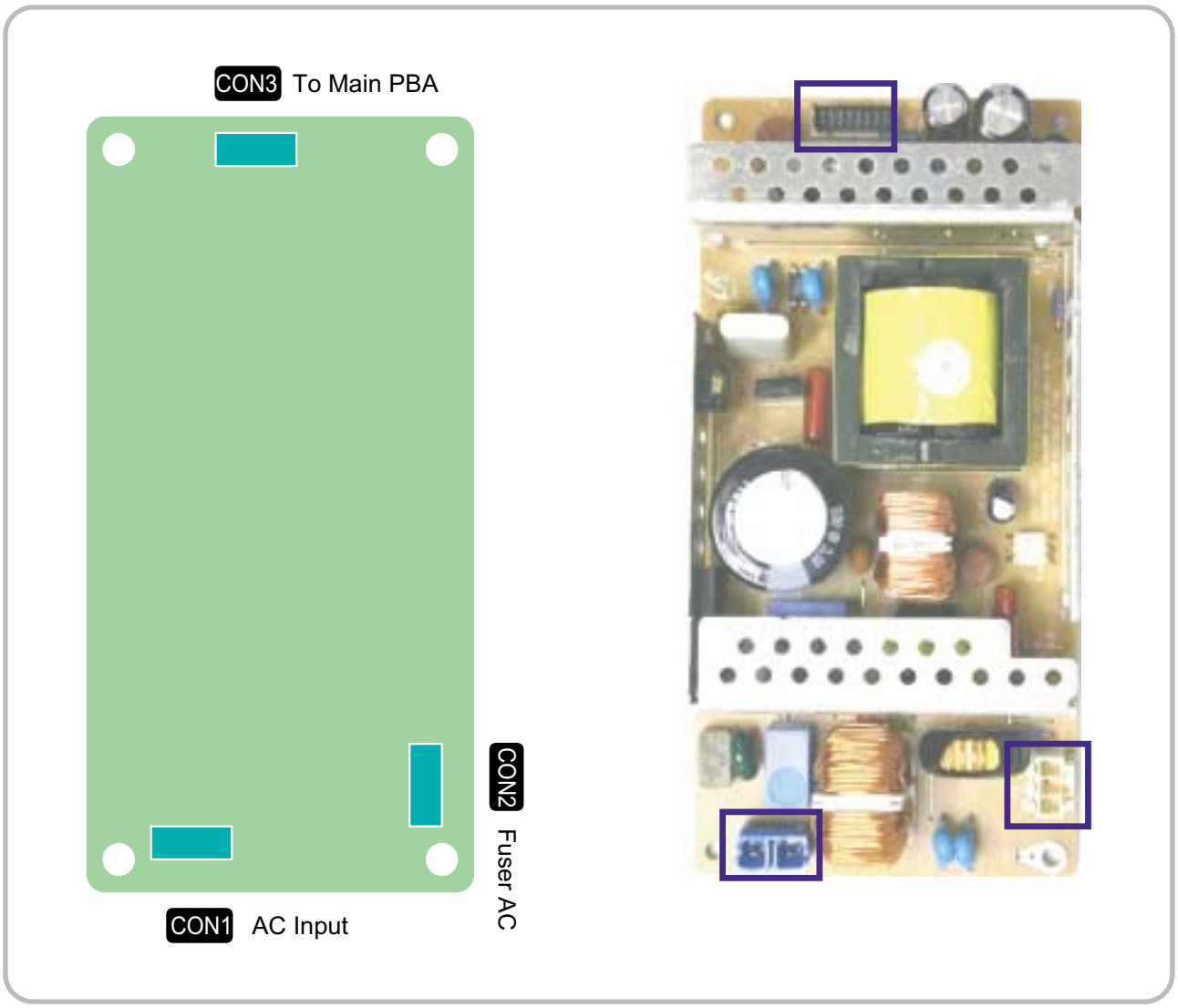
· Main Controller PBA, OP Panel, BLDC, Sensors, Clutches, Other PBAs

2) AC Output

· Fuser Unit(Heat Lamp, Thermostat)

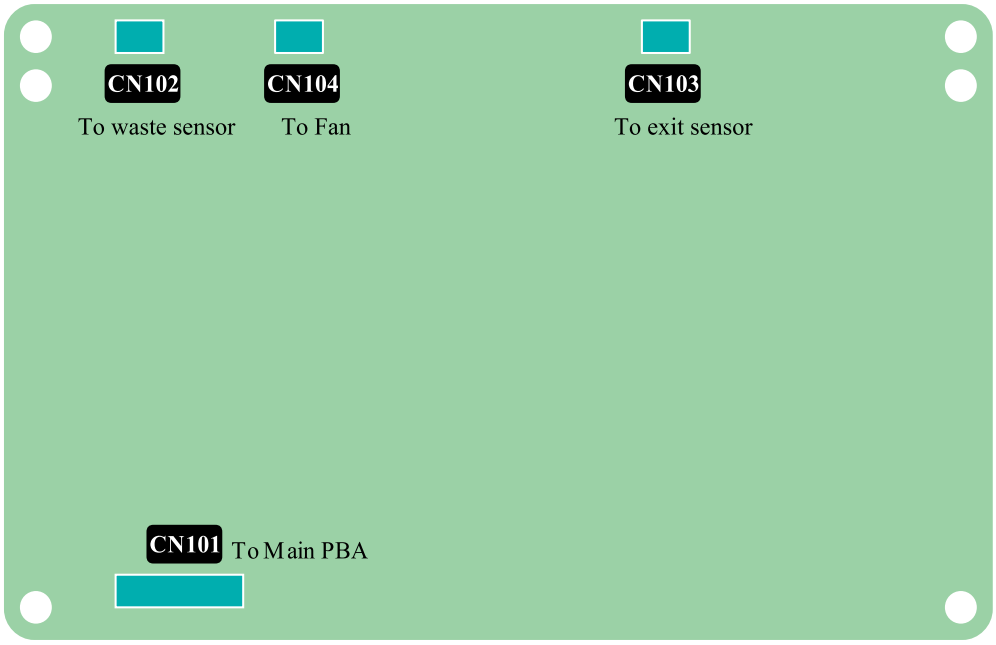
3) Output Voltage

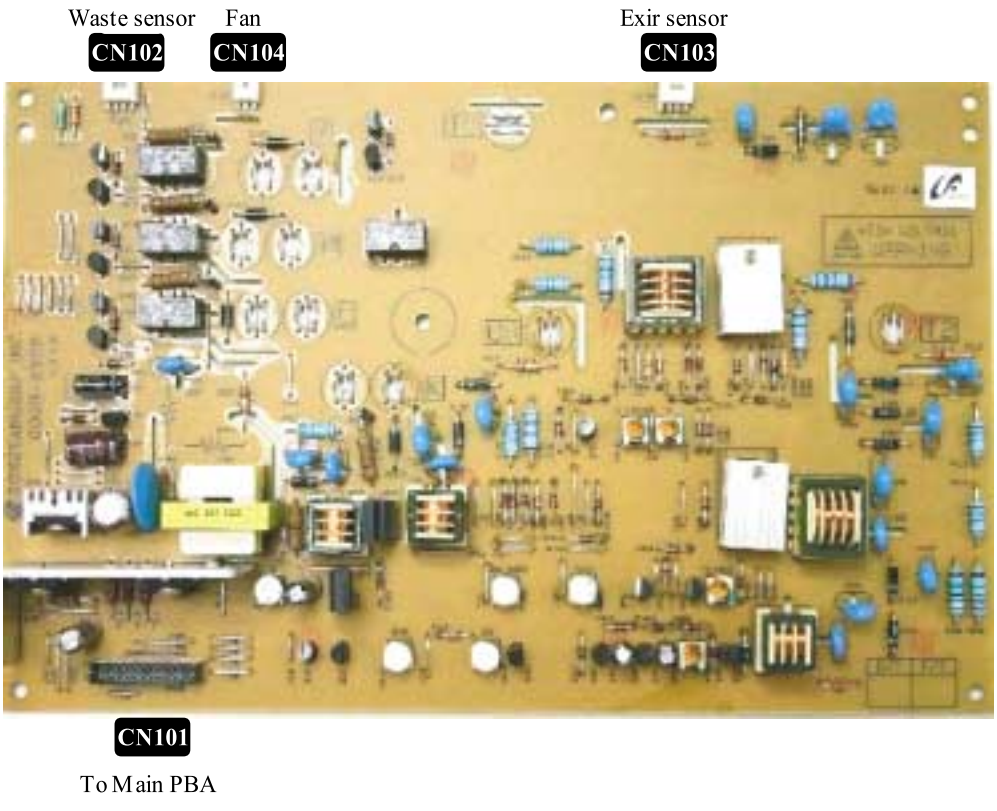
CHANNEL	+5.0V	+24V	+24VF
V_out	+5.0V +/-5%	+24.0V +15%/-10%	+24.0V +15%/-10%
Load	MicroController, CMOS, LOGIC	LSU	MOTOR, CLUTCH, HVPS



3.2.5 HVPS(High Voltage Power Supply) PBA

HVPS PBA generates high voltage of charger, supply, T1 and T2 which is supplied to Developer, ensuring optimum condition for image formation. HVPS receives input of 24V and generates high voltage, supplying it to Toner, OPC, Cartridge, ITB Unit and Transfer Roller.





1) Charger Voltage : Charger

- Function: voltage that charges OPC surface up to -500V~ -800V.
- Output voltage: -1.0KV ~ -2.0KV DC ± 3%
- Error type: if the voltage fails to be output to Charger Roll, OPC surface will not be charged, and the toner on the developer roller will be transferred to OPC Drum, printing black paper.

2) 1st Transfer High Voltage : T1(+)

- Function: voltage necessary for transferring toner developed on OPC Drum surface onto ITB.
- Output voltage: Max +2.0KV ± 3%(Duty variable, no load)
- ERROR type: if T1(+) output fails, the toner on OPC drum will not be transferred to ITB normally and the image will be blurred.

3) 2nd Transfer High Voltage : T2(+)

- Function: voltage used to transfer the toner primarily transferred on ITB again onto paper.
- Output voltage: Max +5.0KV ± 3%(Duty variable, no load)
- ERROR type: if T2(+) output fails, the toner on ITB will not be transferred to paper normally and the image will be blurred.

4) T2 Cleaning Voltage : Clean : T2(-)

- Function: prevent reverse side of paper from being dirtied, by recovering the negatively charged toner remaining at Transfer Roller and sending it onto ITB.
- Output voltage: with no feedback control, output fixed voltage(-1300V +/- 15%)
- ERROR type: reverse side of paper will be dirtied.

5) Supplying Voltage : Supply AC+DC(-)

- Function: voltage that makes toner to develop on the area exposed by LSU by means of potential difference, output will be the voltage of AC+DC overlapped form.
- Output voltage: AC 600V ~ 2000V p-p +/-1.5%
  DC -50V ~ -600V DC +/- 3%
- ERROR type: 1. if supply is GND, density will be extremely low.
  2. if supply is floating (for insecure terminal contact), density will be down so slightly that it is impossible to make out with naked eyes.

6) Developing Voltage : Deve AC+DC(-)

- Function: voltage that supplies toner to Developing Roller
- Output voltage: AC 300V ~ 1700Vp-p ± 1.5% (supply voltage is connected to ZENER Diode 300V)
  DC -50V ~ -600V DC +/- 3%
- ERROR type: 1. if Deve is GND, density will be extremely down.
  2. if Deve is floating (for insecure terminal contact), density will be extremely down.

3.3 CRUM

■ In the case of Refill Toner Install

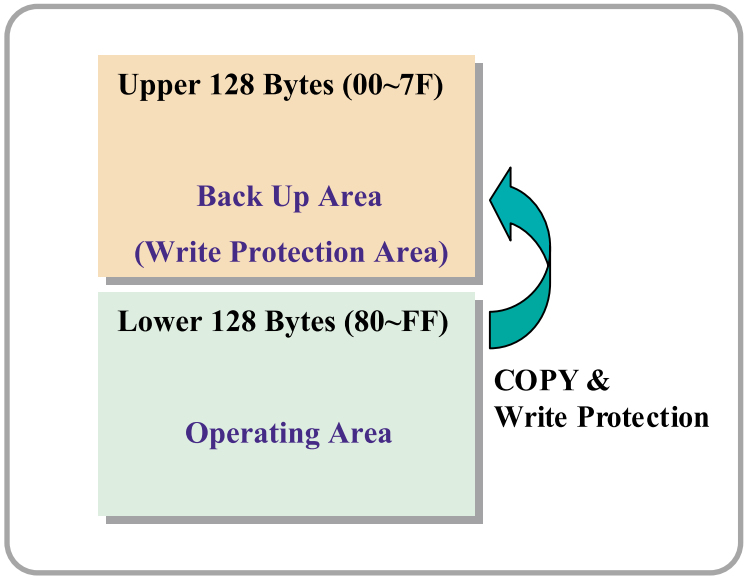
1) Perception of Refill Cartridge (when power is on or the cover is closed)
End of Life / life span data initialization -> judge to be Refill Cartridge
End of Life / life exhausted (simple refill) -> stop printing caused by life exhaustion

2) Operating

It is impossible to control appropriate development parameters, for there's no toner specification data.
It runs with the setting of default development parameter. (Image quality will be degraded, for the lack of appropriate respond to the change of time and environment.)

3) Service Response

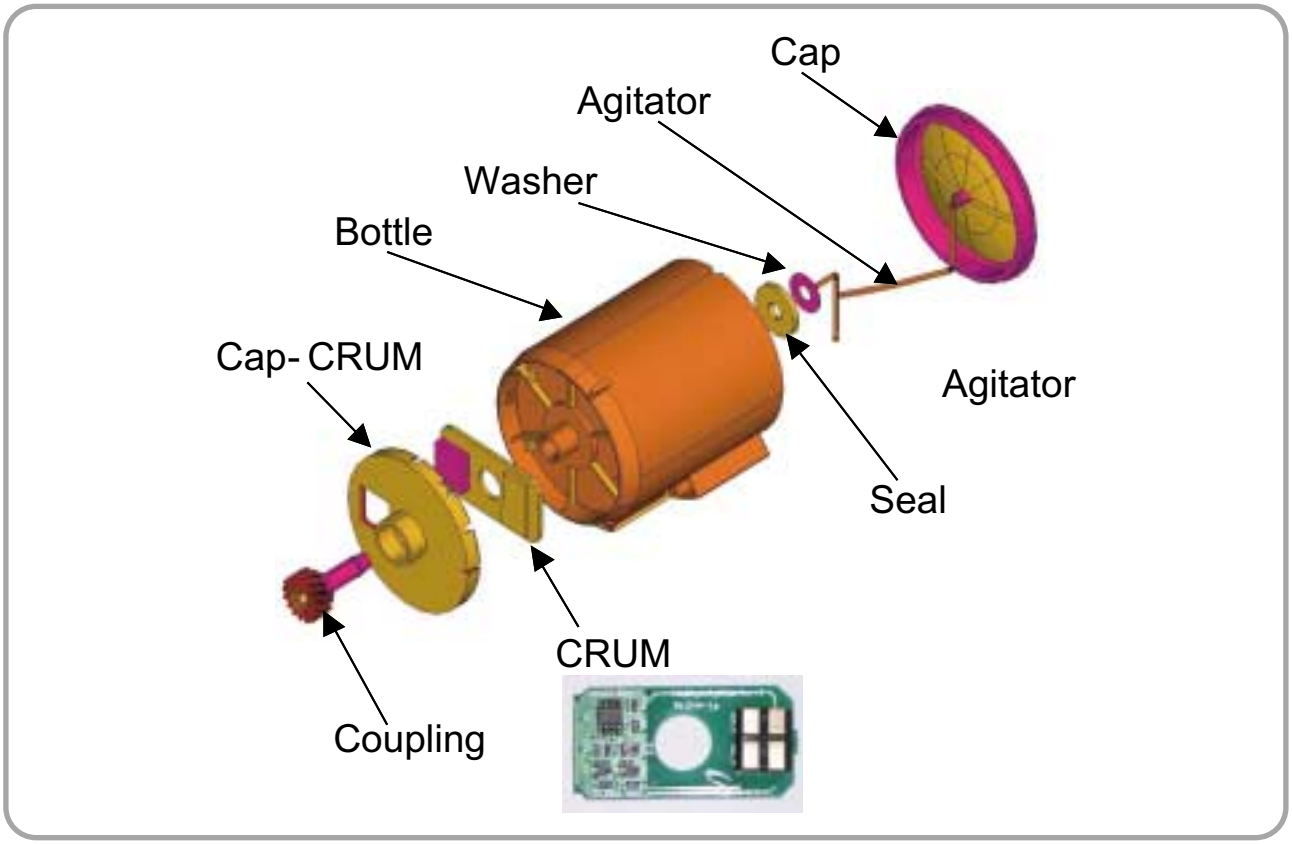
It is possible to response appropriately, for the information of cartridge life is saved at Back Up Area.



■ Process after CRU life expiration

1) Record the information of End of Life.
2) Copy the information of Operating Area into Back up Area.
3) Write-Protect Back up Area.
4) Clear some information of Operation Area.
   -> Supplier/Model Name/MFC date/Serial Number (Manufacture Information)
   -> Let cartridge refiller initialize manufacture information and life span information.

■ CRUM Position



3.4 General Description

This chapter is the product specification for the CLX-3160FN Series. The CLX-3160FN Series is a Color Laser Printer. The CLX-3160FN Series series can be expanded to multi functional printer (MFP). CLX-3160FN Series is developed for two target users. Those are small office users who sometimes need color printouts, and medium business users who mainly use B/W printouts. The main product concept is “the world smallest and lightest color laser printer”. This model has 16ppm B/W print-speed and 4ppm color print-speed, 2400 x 600 dpi class (optical 600 x 600 dpi) color laser printer.

3.4.1 Controller

-The video controller board is located on the right side of the printer.

-Basic Memory is 32 Mbytes SDRAM.

-Field F/W upgradeable FLASH ROM firmware for controller, 1024 byte EEPROM

-Printing Resolution :

Native 600 x 600 dpi standard

Resolution can be enhanced up to 2400 x 600 dpi class, 1200 x 600 dpi (default), 600 x 600 dpi

3.4.2 Processor

CHORUSm (300Mhz), Proprietary SOC

3.4.3 Printer Language Emulations

SPL-Color

3.4.4 Memory

The controller has 32 MB SDRAM and 4 MB flash ROM on Board.

3.4.5 Interfaces

The system supports the following standard interfaces:

· One USB port

- USB v.2.0 compliant
- Color-coded to meet WHQL requirements, connector must be Pantone 426C

· One 10/100 BaseT network connector

- The printer supports an internal Network Interface that can be installed pre-configured on the video controller board at the factory. This supports all of the major Network Operating Systems such as the Novell NetWare, TCP/IP, etc. Details of the network specification will be provided separately.

3.4.6 OP Panel

· 4in1 OP panel : FAX + COPY + SCAN + PRINTER)

· 3in1 OP panel : COPY + SCAN + PRINTER

· 16 x 2 LINE CHARACTER LCD

· MODE (FAX, COPY, SCAN)

· KEY TYPE: CARBON COATING S/W

3.4.7 Periodic Replacing Parts

Samsung shall specify parts requiring replacement and the frequency of replacement. The parts identified may be deemed customer replaceable parts. Periodic replacement parts shall be recommended as follows

Item(s)	Pages Printed	Part number
Black toner cartridge	Approx. 2,000 pages*	CLX-K3160A
Color toner cartridge	Approx. 1,000 pages*	CLX-C3160A:Cyan CLX-M3160A:Magenta CLX-Y3160A:Yellow
Imaging unit	Approx. 20,000 black pages or approx. 12,500 color pages	CLP-R300A
Waste toner container	Approx. 5,000 images** or Approx. 1,250 pages (fulll color Std. image)	CLP-W300A
Pick-up roller	Approx. 50,000 pages	Contact a service representative
Fuser unit	Approx. 100,000 black pages or 50,000 color pages	
T2 roller	Approx. 100,000 pages	
ITB	Approx. 60,000 black pages or 15,000 color pages	

* Average A4-/letter-sized page count based on Std. coverage of individual colors on each page. Usage conditions and print patterns may cause results to vary.

** Image counts based on one color on each page. If you print documents in full color (Cyan, Magenta, Yellow, Black), the life of this item will be reduced by 25%.

3.4.8 Power Switch

The Switch is located at rear-side of printer and must be marked to indicate on and off.

3.4.9 Operator Panel

(1) Configuration

Operations Panel uses Main Control and separated OPE Chip Micom and work as inner program,
systemic operation is serial system which exchange Date with SIO Port of Main Control. OPE Panel is approximately composed of Micom part, Matrix part and LCD.

(2) Micom controller

Micom has ROM, RAM, I/O Port built-in and displays and lights LCD by CPU command of Main Control Part and report Key recognition Data to Main Control Board.

3.4.10 Sensor

Paper empty (Cassette)

3.4.11 CRUMS

The CLX-3160 Series engine will be equipped with electronics that can read and write data into NVRAMs otherwise known as CRUMs that reside within 1) C, M, Y, K Toner cartridges and 2) Imaging kit(Developer, OPC, ITB). The CRUM has a company ID, and Samsunga electronics logo.

The toner CRUM also identifies the type of toner cartridge (Standard or High Capacity). The CRUMs contain fixed data such as the low warning point, specified life point, and hard stop point (on toner, not on IBT unit) and also store the current life count (pages count, pixels count, images count) and % of usage (gas gauge) data.

3.4.12 LOW / OUT Behavior for consumables

The consumable low and out behavior on CLX-3160 Series engine is specified by SEC.

FP message	Device for life end detection	Law(90%)	Life(100%)	Hard stop	Reset to 0
Toner	CRUM	Yes	Yes	Yes(115%)	No
Imaging Kit	CRUM	Yes	Yes	No	No
Fuser	No	Yes	Yes	No	Yes
T2 Roller	No	Yes	Yes	No	Yes
Pick-up	No	No	No	No	No

4. S/W Structure and Descriptions

4.1 Overview

The software of Dove system is constructed with

1) Host Software part that the application software operated in Window and Web Environment, and

2) Firmware parts that is a Embedded software controls printing job.

4.2 Architecture

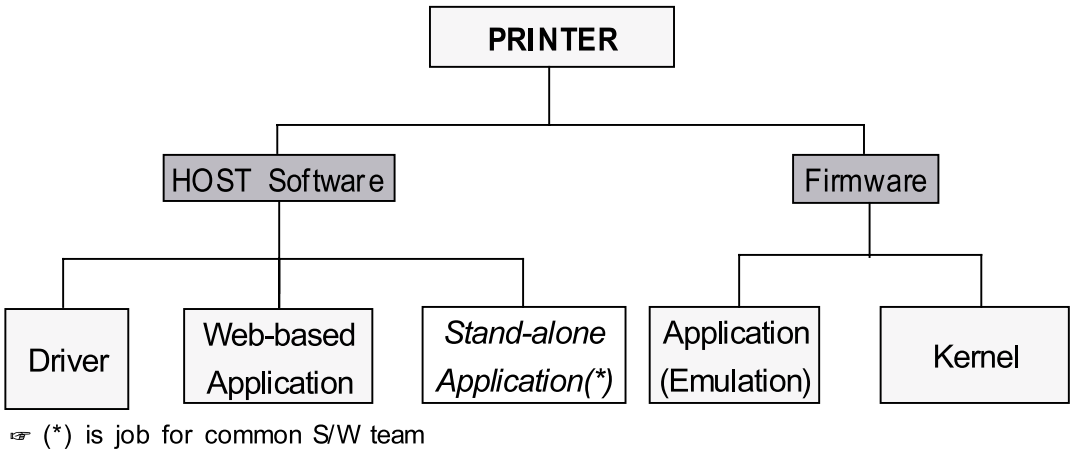


Fig. 3.4-1 SW Tree Structure

Host Software is made up of

1. Graphic User Interface that offers the various editing functions to user in Host,
2. Driver that translates the received document to a Printing Command language which printer can understand and transfers data to spooler,
3. Stand-alone Application that offers the various printing application, DMS(Document Management System), RCP(Remote Control Panel), Printer Status Monitor, Network Management in Window system,
4. Web-based-Application that offers the same functions as Stand-alone Application and RDC(Remote Diagnosis Control) in Web environment.

Firmware is made up of

1. Application (Emulation) that is a interpreter translate data received from Host to a printing language (PCL, PS, GDI, etc.) to be able to make the user to take same output as originally one what composed in Host.
2. Kernel that control and management the whole procedure include of Control flow and Printing Job before transfer to

4.3 Data and Control Flow

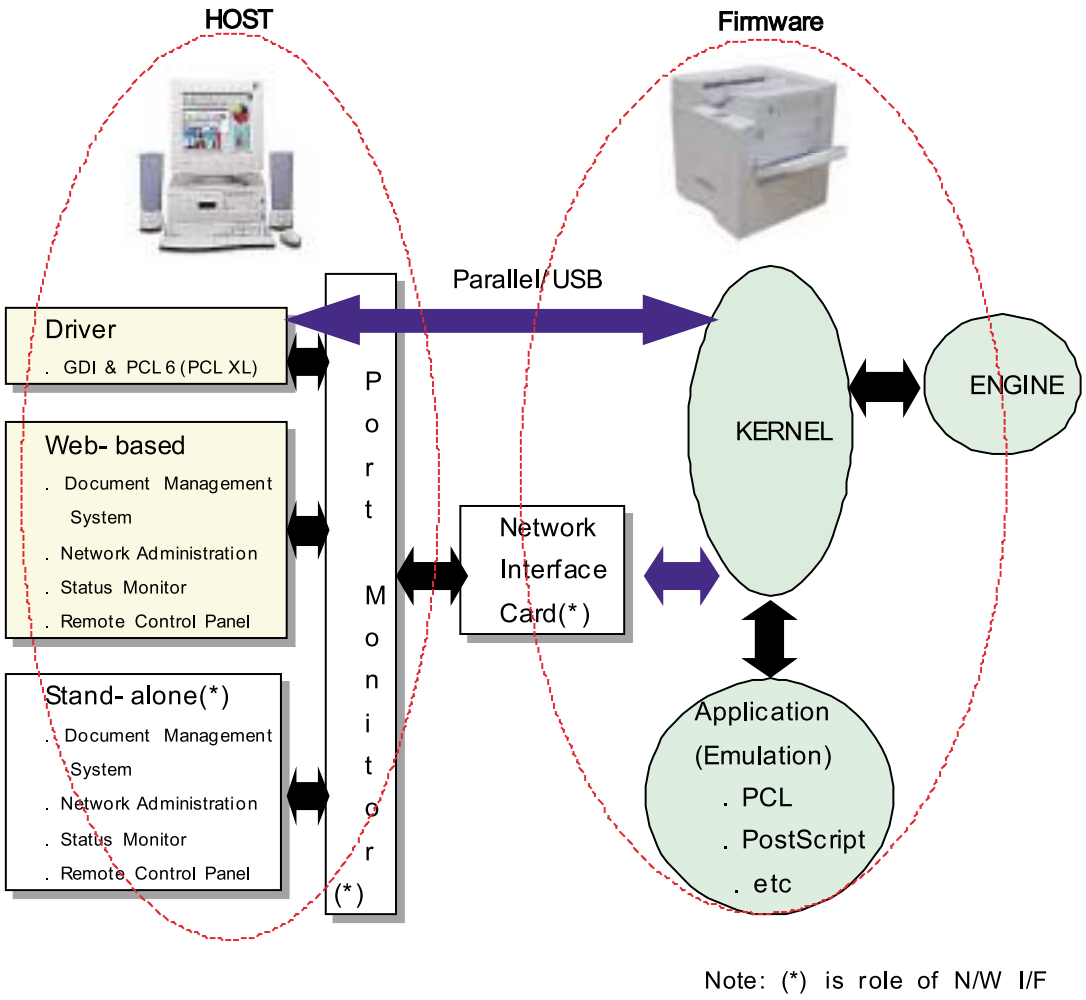


Fig. 3.4-2 Data and Control Flow

The above Block Diagram is explained that:

Host Side is made up of

1. Driver that is Windows application software translate printed data to one of printer language and create spooler file,
2. Web-based Application that offer a various printer additional functions, management of printing job, printer administration, Status monitor to monitoring the printer status by real time in Web, independent environment on OS.
3. Stand-alone Application that is a similar Window software as same as above 2,
4. Port Monitor that manages the network communication between spooler and Network Interface Card, or various additional application and Network Interface Card,(this is, at first, make communication logical port, manage the data, transfer them from spooler to network port, and offer the result of printing).

Firmware Side is made up of

1. Network Interface Card is that relay the communication between Host and kernel using various network protocol,
2. Kernel is that manages the flow control of emulation procedure, receiving data from Host or Network card and printing with engine & rendering job,
3. Emulation is that interprets the various output data from selected emulation,
4. Engine is that prints rendered bit-map data to paper with required size and type by Kernel.

And then, for Job Spooling function for Multi-User, Multi-Printing that is occurred in Network printing and various additional printing functions, this Kernel use max. 10 Queuing systems in a memory.

In Printing, the two procedures are

(1) Case of using Parallel or USB Port

① After user start to print the wanted document to PCL string or compressed GDI bit-map data, Driver translate the all graphic data of it and send data to host spooler. And then the spooler sends the data stream to the printer via parallel port or USB port.

② Kernel receives this data from Host, and then select emulation fit to data and start selected one. After emulation job end, Kernel sends the output bit-map data to Engine using Printer Video Controller (by clock type for LSU).

③ Engine print the received data to required paper with the sequential developing process.

(2) Case of using Network Interface Card

① After user start to print the wanted document to PCL string or compressed GDI bit-map data, Driver translate the all graphic data of it and send data to host spooler.

② If so, Port monitor managing network port receives data from spooler and sends a data stream to the Network Interface Card.

③ Network interface card receives it and send to Kernel part,

④ Kernel receives this data from Host, and then select emulation fit to data and start selected one. After emulation job end, Kernel sends the output bit-map data to Engine using Printer Video Controller (by clock type for LSU).

⑤ Engine print the received data to required paper with the sequential developing process.

The additional printing function are realized in

(1) Web environment

(2) Window environment.

On addition, Kernel informs a status of printing status and printer status to user made printing job with the Status Monitor.

4.4 Alarm Shortage

	90 ~ 100 %	100 ~ 110 %	110 %~
Toner (C,M,Y,K)	Ready Yellow Toner Low	Replace Yellow Toner	Yellow Toner Empty
Transfer Belt	Replace Transfer Belt Soon	Replace Transfer Belt	
Fuser	Replace Fuser Soon	Replace Fuser	
Pickup Rollers (MP/Tray1/Tray2)		Replace MP Pick-Roller	

4.5 Error status

1. Missing/Invalid Consumables
   - · Install Cyan (Magenta, Yellow, Black) Toner
   - · Install Transfer Belt
   - · Invalid Cyan (Magenta, Yellow, Black) Toner
   - · Invalid Transfer Belt

2. Paper Empty/Mismatch
   - · Paper Empty In MP(Tray1, Tray2)
   - · Load A4 In MP(Tray1, Tray2)

3. Paper JAM
   - · Jam 0 In MP(Tray1, Tray2)
   - · Jam Inside Printer
   - · Jam In Exit Area

4. Cover
   - · Cover Open : Message toggles between
     "Cover Open" and "Install Transfer Belt"
   - · SCF Cove Open

5. Service Call : Unrecoverable Error
   - · Engine LSU Error
   - · Main Motor Error / Dev. Motor Error
   - · Engine Fuser Over(Low) Heat Error
   - · Rear Fan Error / Left Fan Error / SMPS Fan Error

6. Others
   - · Memory Overflow Error
   - · Ready IP Conflict

4.6 CRUM Overview

- Stands for “Customer Replaceable Unit Monitor”

- EEPROM is used for CRUM Memory.

- CRUM stores various information on consumables (including consumables’ life).

- In CLX-3160FN, total five CRUM’s are used
  (four on toner cartridges and one on transfer belt)

CRUM stores the following information

· Model Name
· Supplier ID
· Serial Number
· Company ID
· MFG Date
· Capacity
· Page Count
  - Toner Cartridge and Transfer Belt
  - Indicates how many pages are printed by using the consumable

· Dot Count
  - Toner Cartridge Only
  - Indicates how many dots are printed by using the toner cartridge

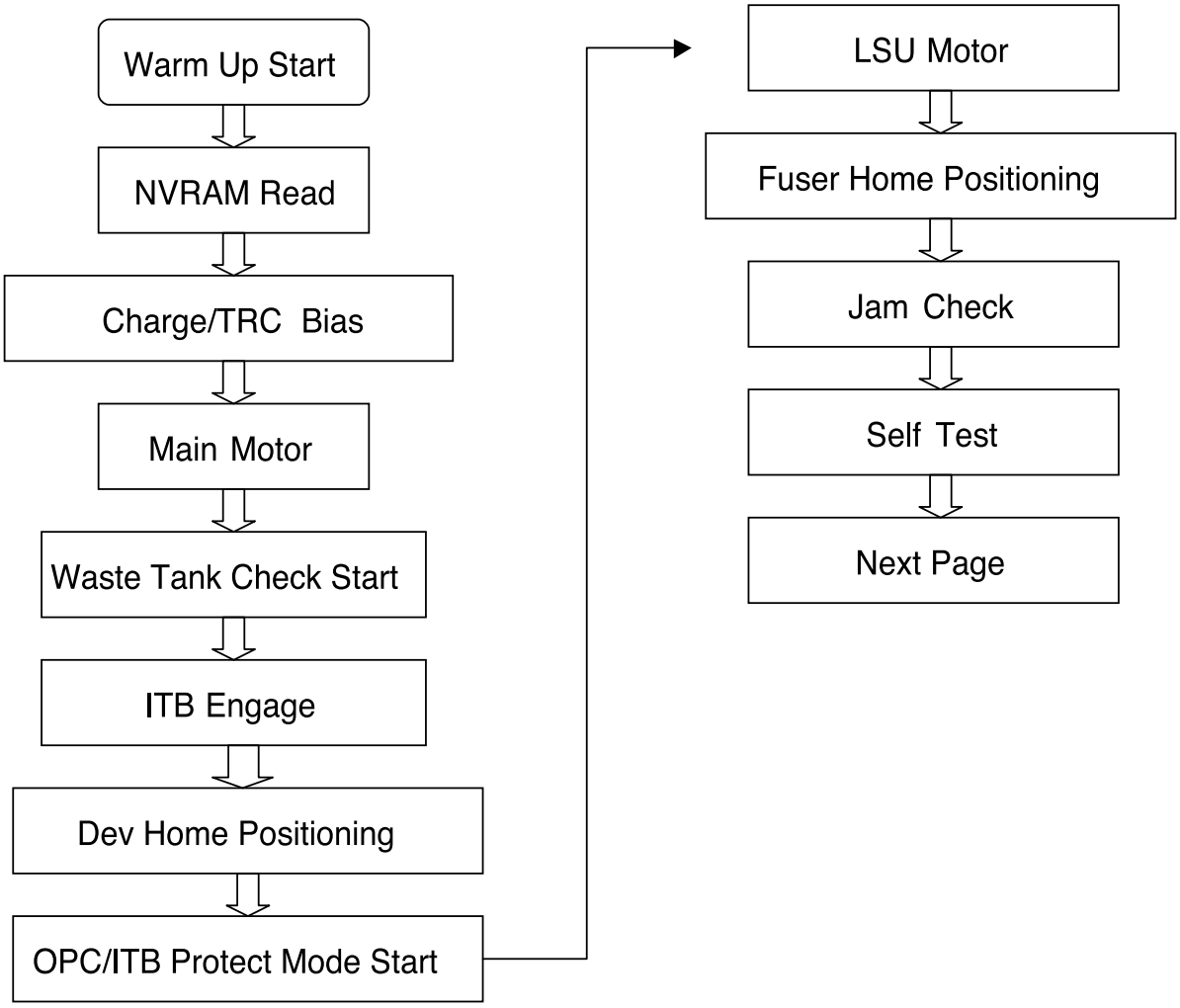
4.7 FW Upgrade

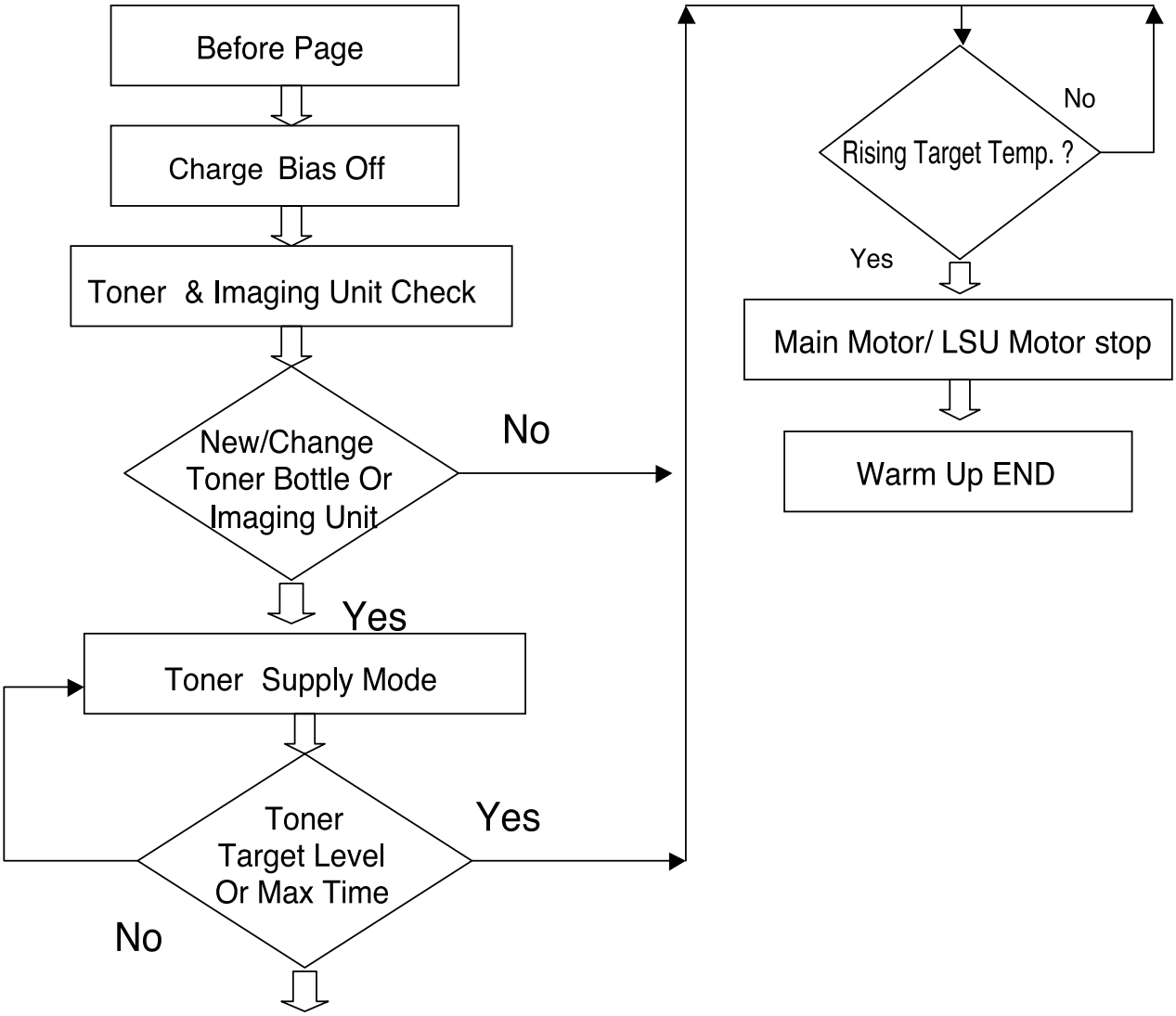
· Via USB or Network (SWS/SWAS)

· You can upgrade F/W via USB or Network whenever the printer is “Ready”

· Via Using F/W Download Mode :
  Step 1) Power on while pressing the Online Key
  Step 2) Press Online Key one more time if “Press Key Again” is displayed on LCD
  Step 3) Download F/W via USB

4.8 Initailize Flow




Before Page
Charge Bias Off
Toner & Imaging Unit Check
New/Change Toner Bottle Or Imaging Unit
No
Yes
Toner Supply Mode
Toner Target Level Or Max Time
Yes
No
Rising Target Temp. ?
No
Yes
Main Motor/ LSU Motor stop
Warm Up END

5. Disassembly and Reassembly

5.1 General Precautions on Disassembly

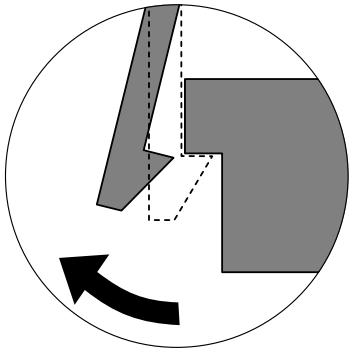
When you disassemble and reassemble components, you must use extreme caution. The close proximity of cables to moving parts makes proper routing a must.
If components are removed, any cables disturbed by the procedure must be restored as close as possible to their original positions. Before removing any component from the machine, note the cable routing that will be affected.

Whenever servicing the machine, you must perform as follows:

1. Check to verify that documents are not stored in memory.
2. Be sure to remove the toner cartridge before you disassemble parts.
3. Unplug the power cord.
4. Use a flat and clean surface.
5. Replace only with authorized components.
6. Do not force plastic-material components.
7. Make sure all components are in their proper position.

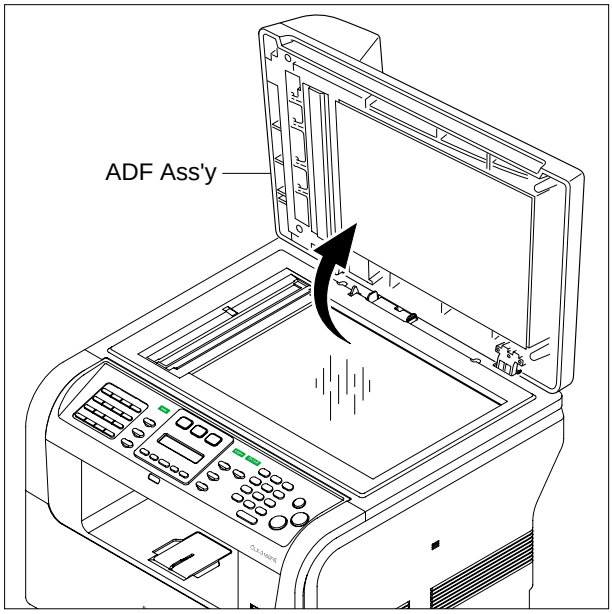
Releasing Plastic Latches

Many of the parts are held in place with plastic latches. The latches break easily; release them carefully.
To remove such parts, press the hook end of the latch away from the part to which it is latched.

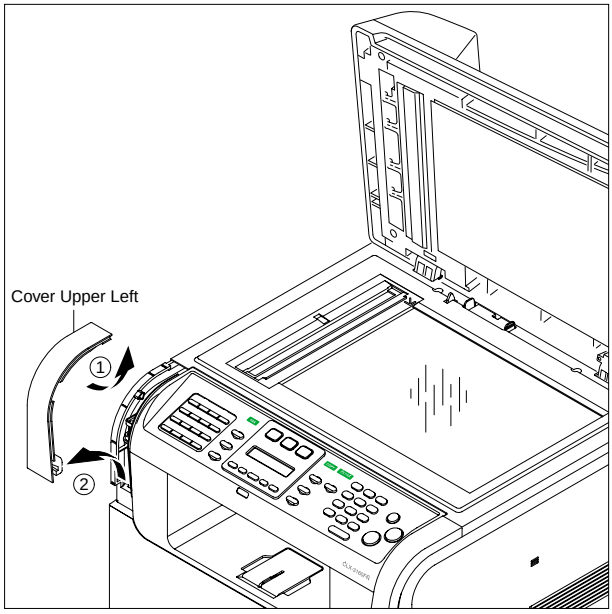


5.2 Cover Upper (Left, Right)

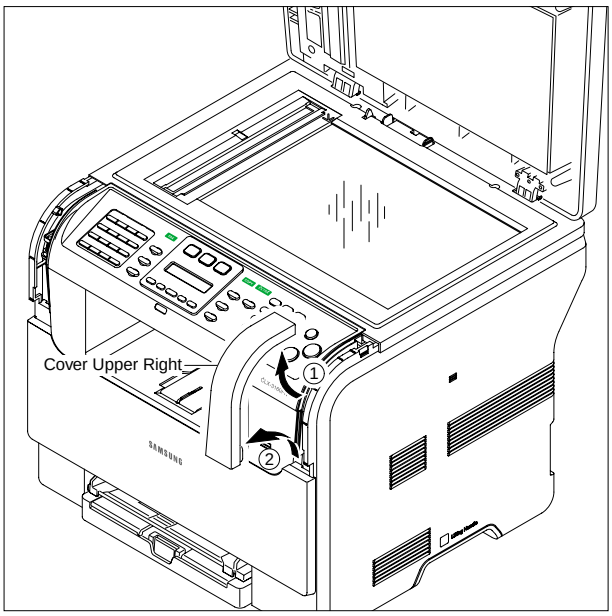
1. Open the ADF Ass'y.



2. Apply light pressure to the left side of the Cover Upper Left and pull it in the direction of arrow, as shown below.

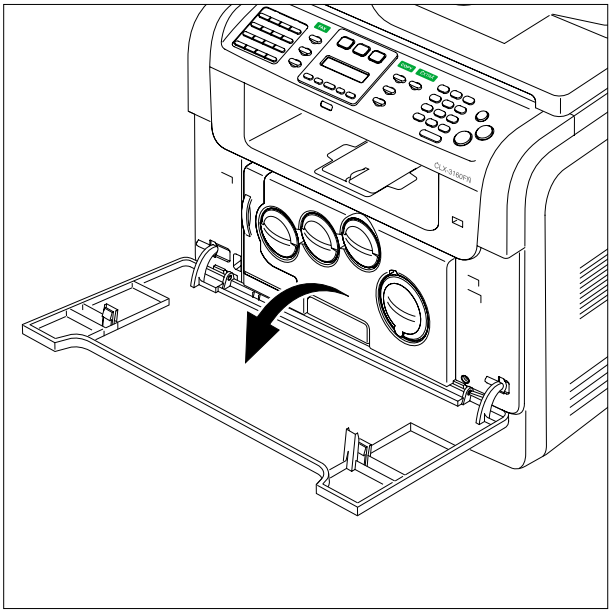


3. Apply light pressure to the right side of the Cover Upper Right and pull it in the direction of arrow, as shown below.

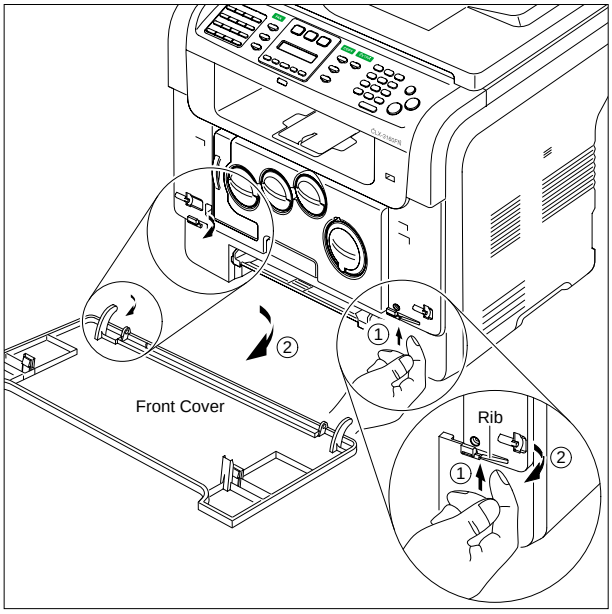


5.3 Front Cover

1. Open the Cover.

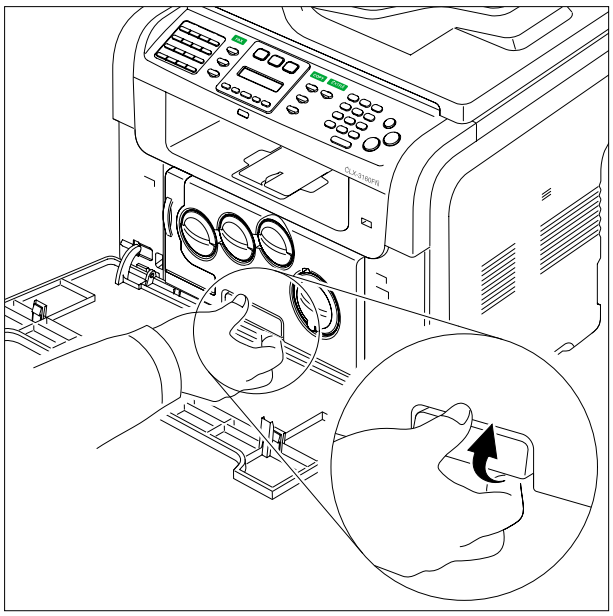


2. To remove the Front Cover, first pull the Rib below the right side of the Front Cover with a light pressure to the upside and then release the Front Cover in the direction of arrow, as shown below.

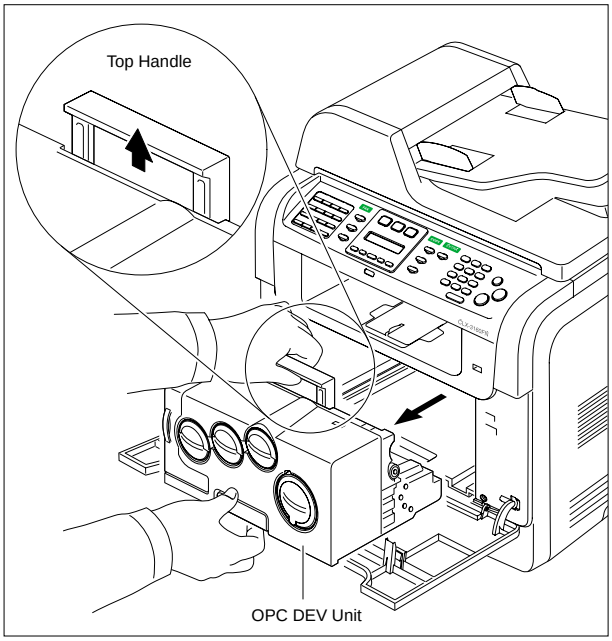


5.4 OPC DEV Unit

1. First open the Front Cover and then pull the OPC DEV Unit out of the machine using the open handle, as shown below.



2. Extend the Top Handle on the OPC DEV Unit and then use it to pull the OPC DEV Unit out of the machine completely.



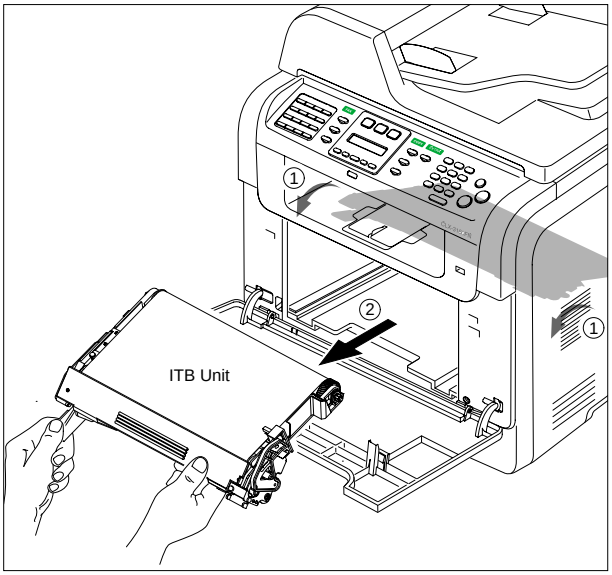
Notice: 1) Do not touch the green surface on the OPC DEV Unit with your hands or any other material. Use the handle on it to avoid touching this area.

2) Be careful not to scratch the surface of the OPC DEV Unit.

5.5 ITB Unit

1. Before you remove the ITB Unit, you should remove:
   - OPC DEV Unit (Refer to 5.4)

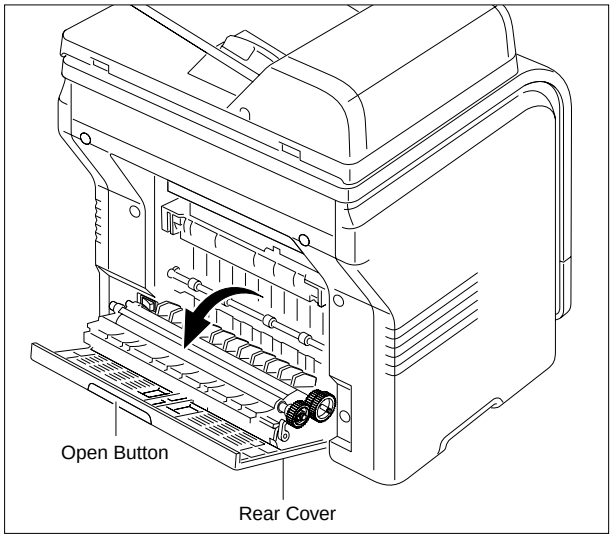
2. For easy dissembly, first pull the ITB Unit in the direction of arrow and then take out the ITB Unit, as shown below.



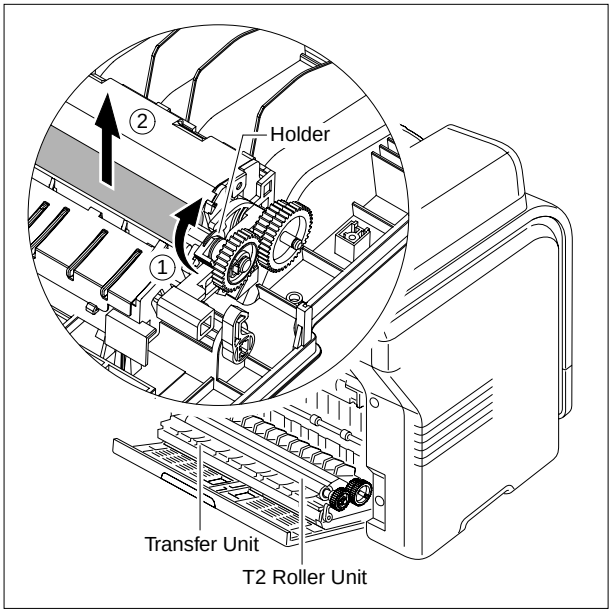
Notice: 1) Do not grab the ITB Belt of the ITB Unit, it may cause a malfunction due to a foreign object.
2) Be careful not to scratch the surface of the ITB Belt.

5.6 T2 Roller Unit

1. Push the Open Button and then open the Rear Cover, as shown below.



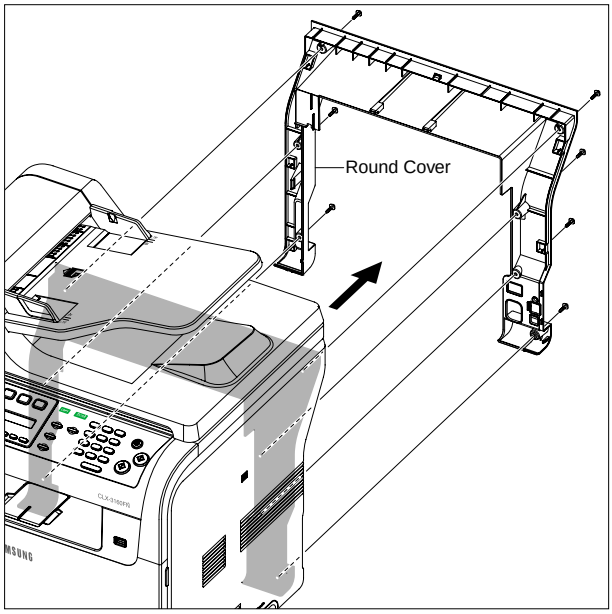
2. To remove the T2 Roller Unit, first release the Holder and rotate it from the Transfer Unit and then take out the T2 Roller Unit, as shown below.



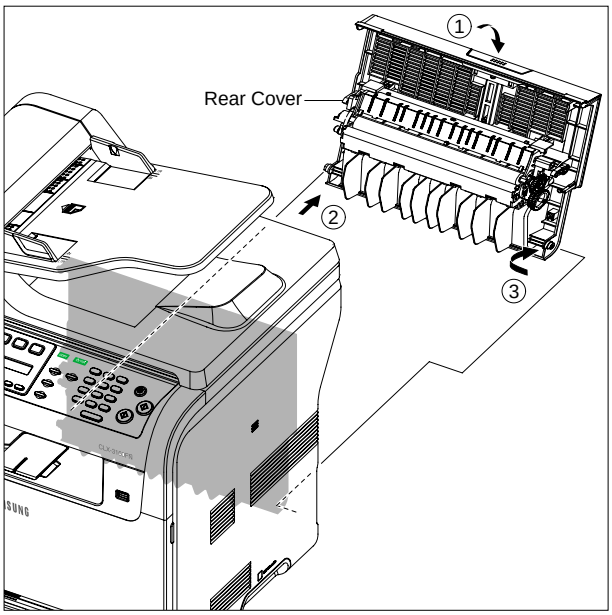
Notice : Do not grab the rubber part of the T2 Roller Unit, it may cause a malfunction due to a foreigen object.
Hold the both side of the T2 Roller Unit when replacing it.

5.7 Rear Cover

1. Remove the seven screws securing the Round Cover and then release the Round Cover from the machine completely, as shown below.



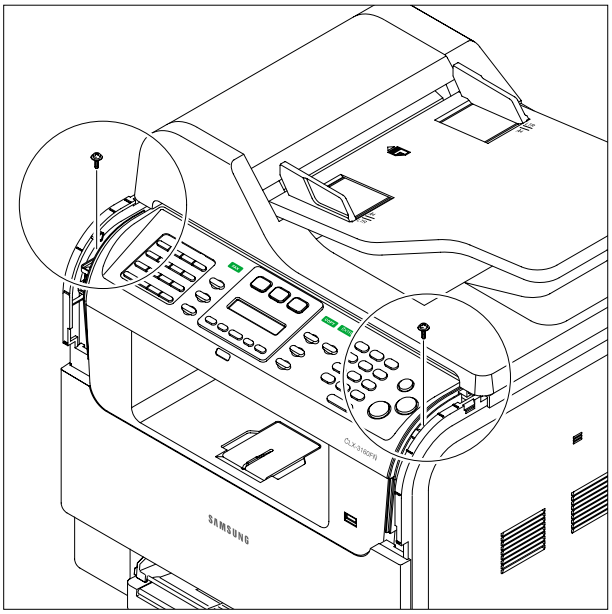
2. Open the Rear Cover(refer to 5.5.1) and then release the Rear Cover in the direction of arrow, as shown below.



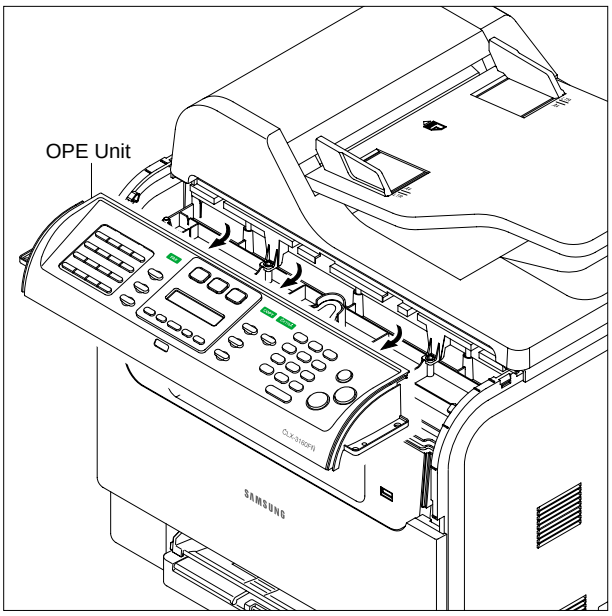
5.8 OPE Unit

1. Before you remove the OPE Unit, you should remove:
   - Cover Upper L, R (Refer to 5.2)

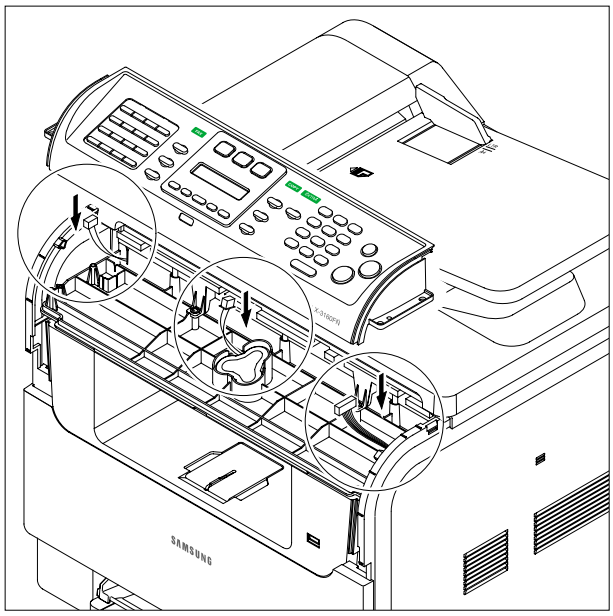
2. Remove the two screws securing the OPE Unit to the Platen Ass'y.



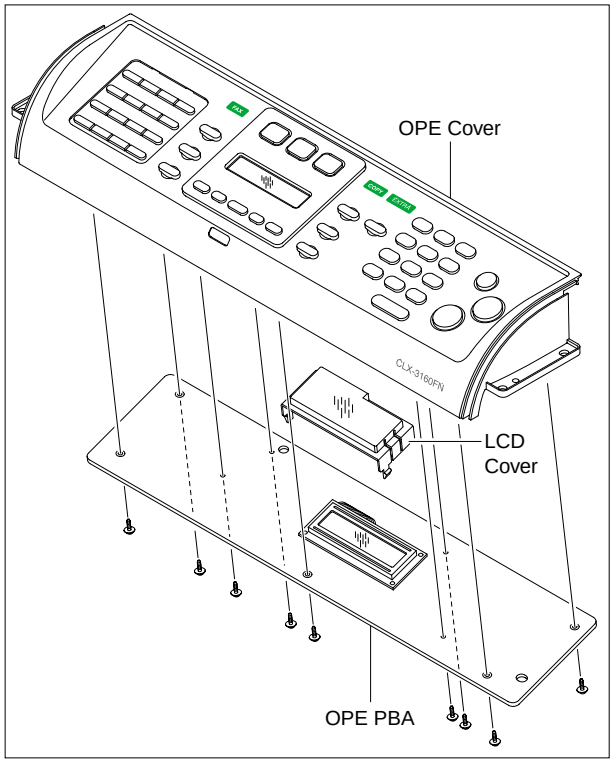
3. Apply light pressure to the front of the OPE Unit and pull it in the direction of arrow, as shown below.



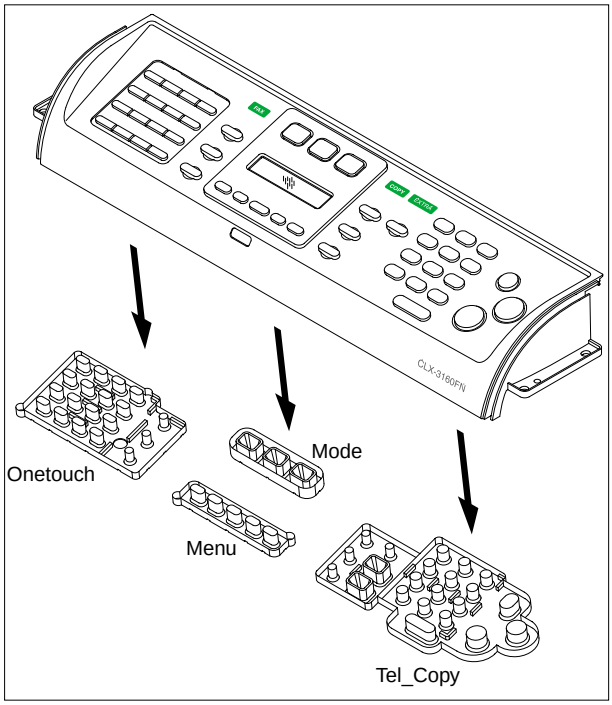
4. Unplug the three connectors from the OPE PBA, as shown below.



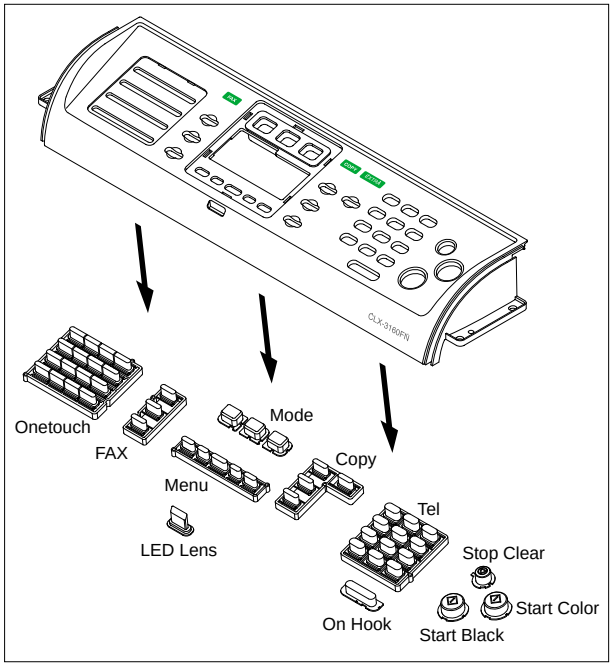
5. Remove the nine screws securing the OPE PBA to the OPE Cover.



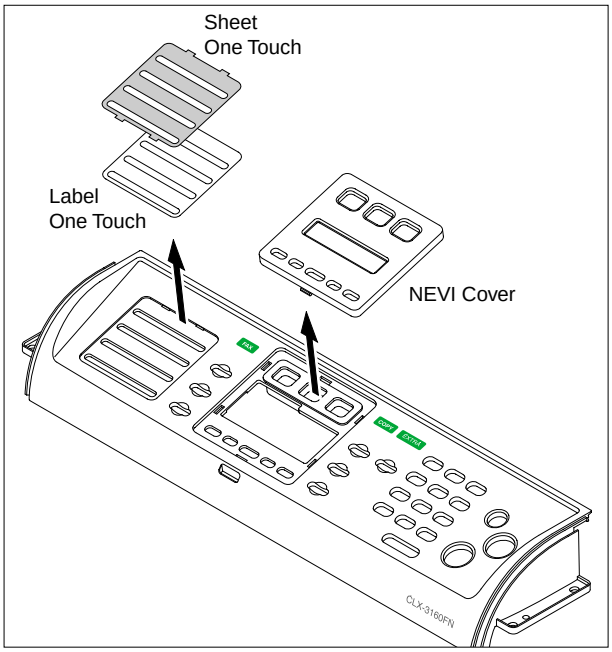
6. Remove the Contact Rubbers from the OPE Cover.



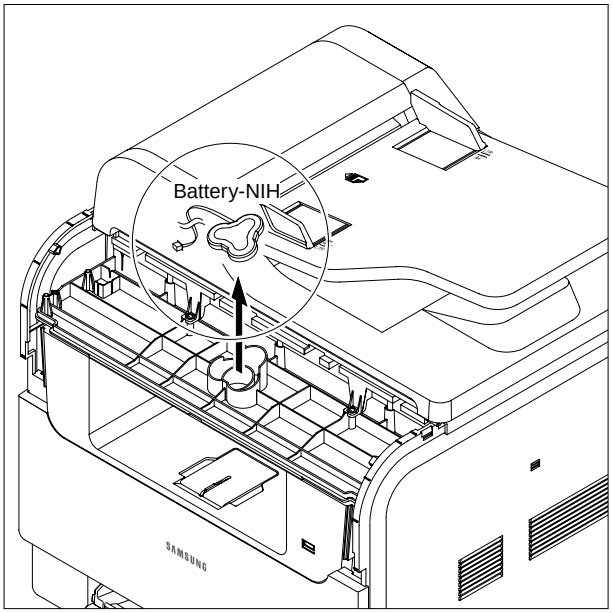
7. Remove the Lens and Keys from the OPE Cover.



8. If necessary, remove the NEVI Cover.



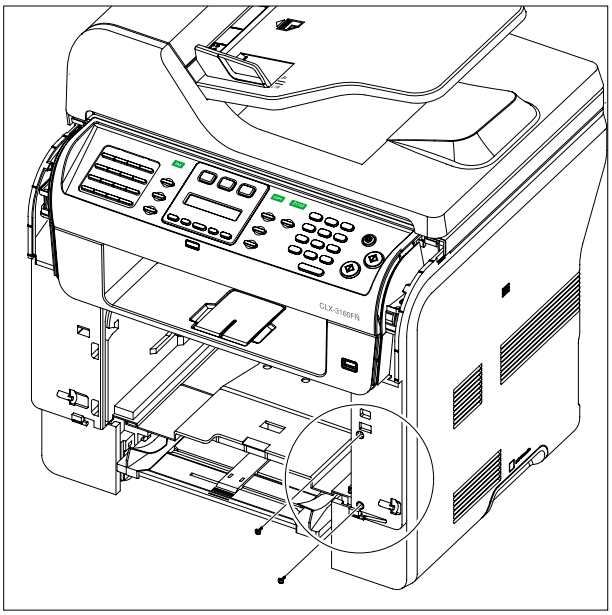
9. For easy disassembly, release the Battery-NIH.



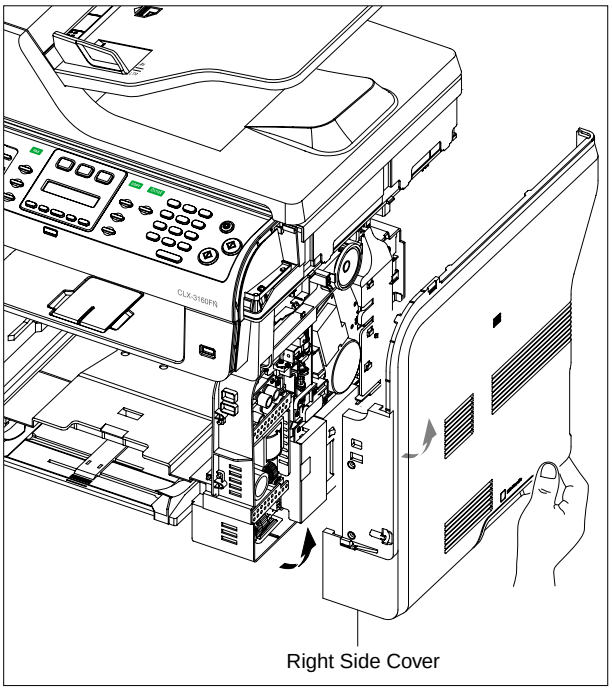
5.9 Side Cover (Left, Right)

1. Before you remove the Side Cover (Left, Right), you should remove:
   - Front Cover (Refer to 5.3)
   - Rear Cover (Refer to 5.7)

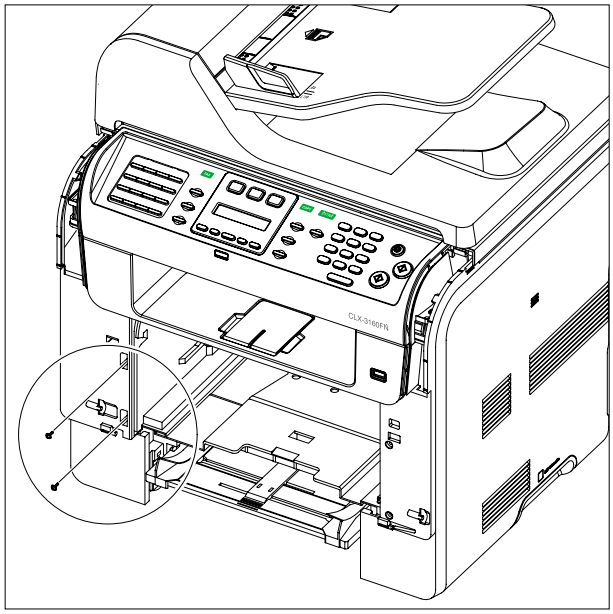
2. Remove the two screws securing the Right Side Cover, as shown below.



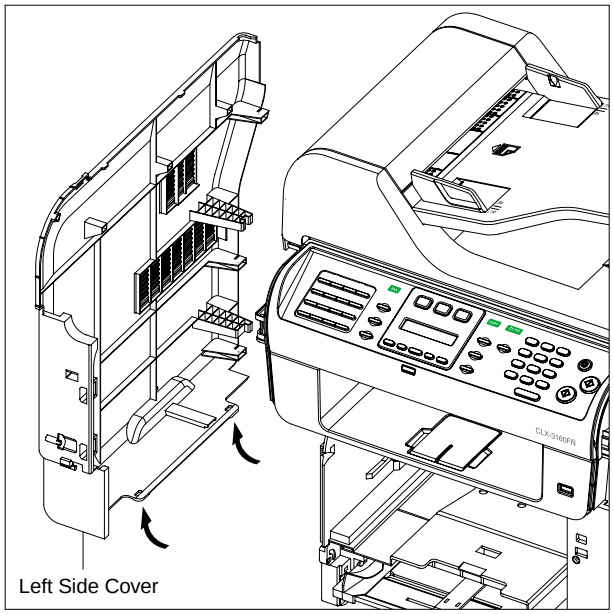
3. Apply light pressure to the bottom of the Right Side Cover and pull it to the right side in the direction of arrows, as shown below.



4. Remove the two screws securing the Left Side Cover, as shown below.



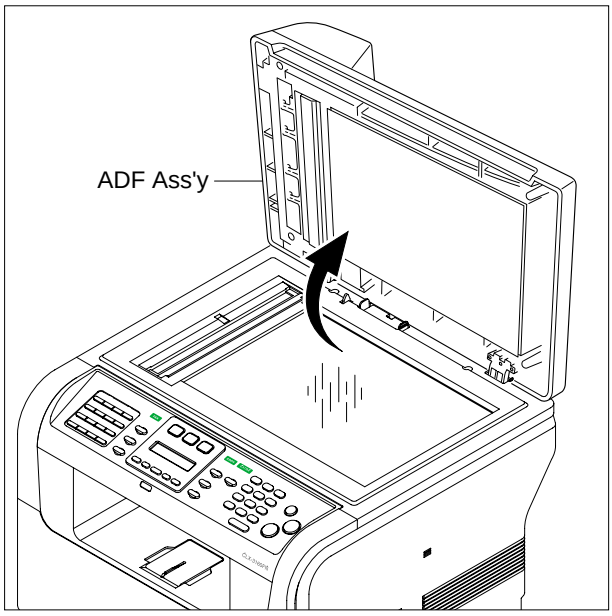
5. Apply light pressure to the bottom of the Left Side Cover and pull it to the left side in the direction of arrows, as shown below.



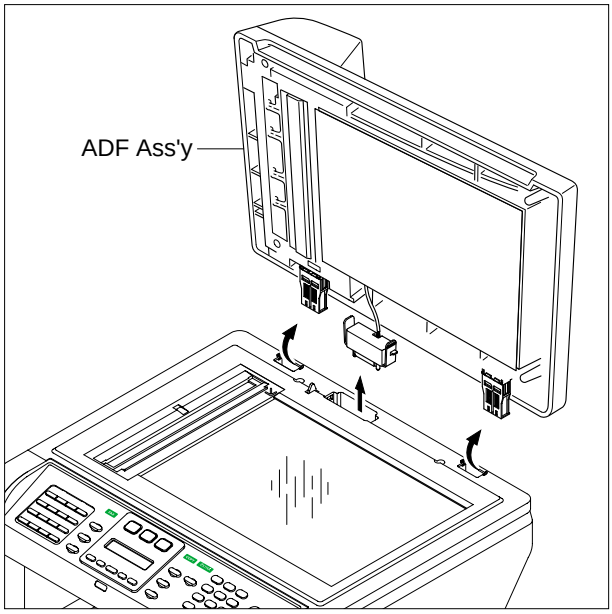
Notice : Be careful not to damage the hooks when remove the Side Cover (Left, Right).

5.10 ADF Ass'y

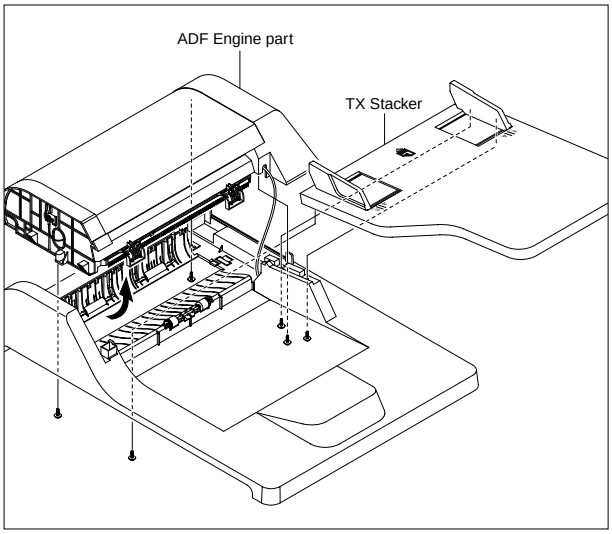
1. Open the ADF Ass'y



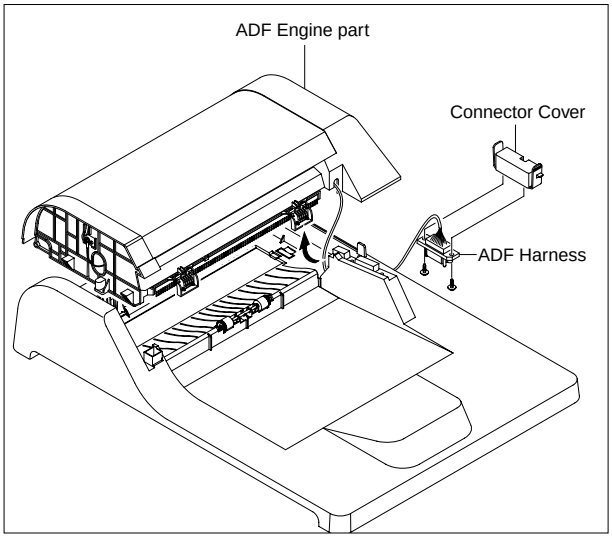
2. First remove the ADF Harness from the Platen Ass'y and then pull the ADF Ass'y upward in the direction of arrow, as shown below.



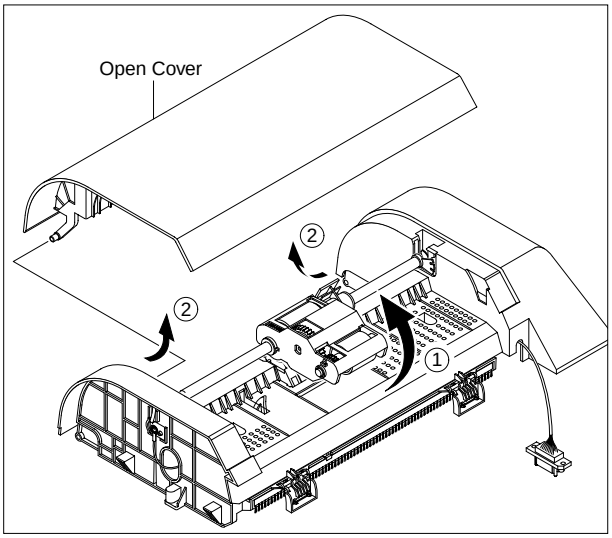
3. To remove the ADF Engine part, first remove the eight screws securing the ADF Engine part to the Cover Platen and then release the ADF Engine part in the direction of arrow.
   At that time the TX Stacker automatically release it self at right side, as shown below.



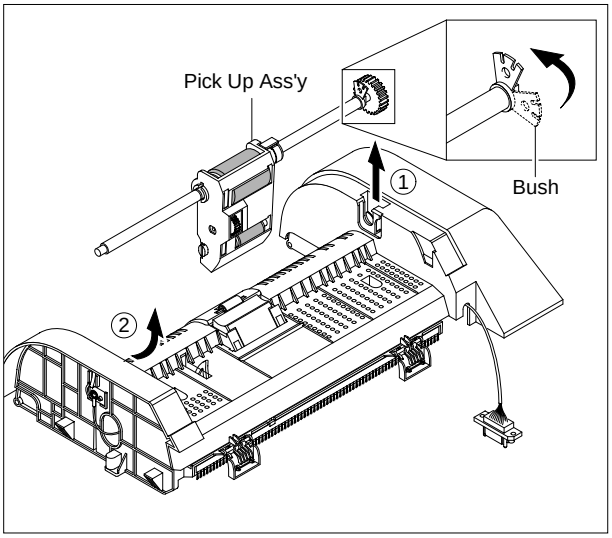
4. Remove the two screws securing the ADF Harness to the Cover Connector and then take care to thread the ADF Harness through the Cover Platen.



5. Remove the Open Cover, as shown below.

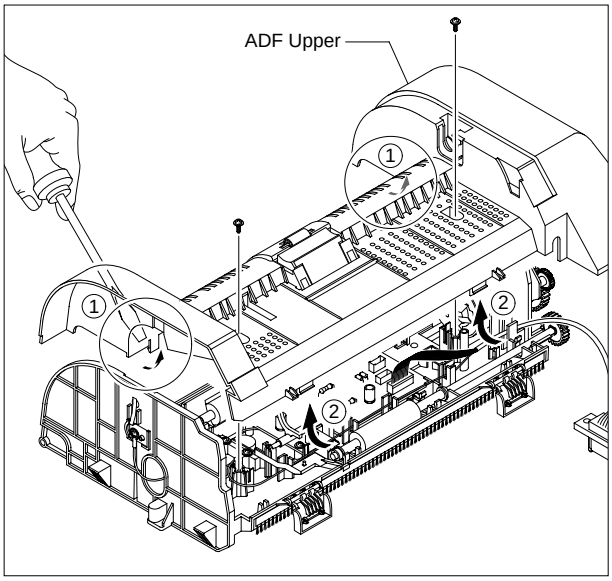


6. Release the Bush and rotate it until it reaches the slot, as shown below and then lift the Pick Up Ass'y out in the direction of arrow.

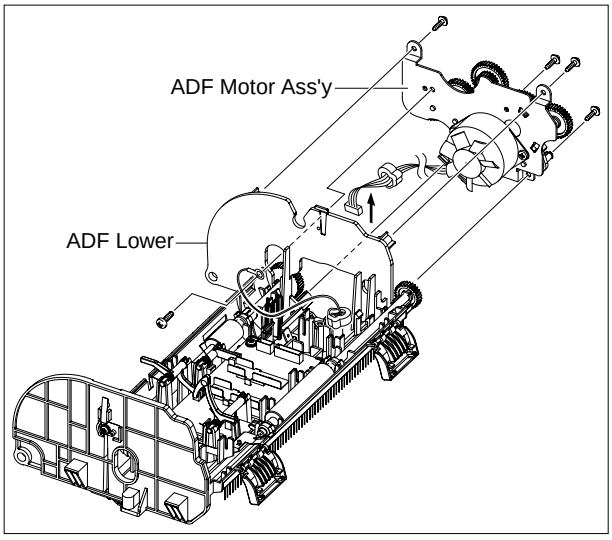


Notice : Do not grab the rubber part of the Pick Up Ass'y, it may cause a malfunction due to a foreigen object.

7. To remove the ADF Upper, first remove the two screws securing the ADF Upper and then unlatch the two hooks using a flat-blade screwdriver, as shown below.



8. Unplug the ADF Motor connector and remove four screws securing the ADF Motor Ass'y and then remove the one screw securing the Ground Cable, as shown below.
Then take out the ADF Motor Ass'y.



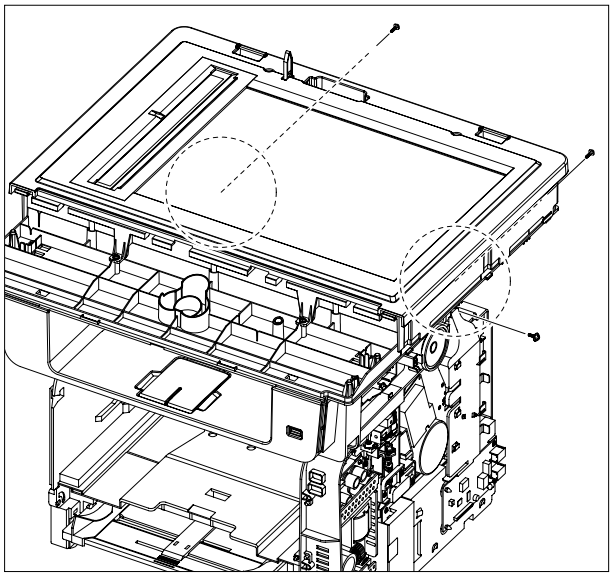
Notice : 1) When working on the ADF Motor Ass'y take care not to contaminate any of the rubber surfaces with grease.

2) Before removing the ADF Engine part take great care to note the position of the Ferrite Core and the Motor Harness routing. When refitting the ADF Engine part ensure that the Harness and Ferrite are properly located and are clear of the Motor Fan and White Bar Clip.

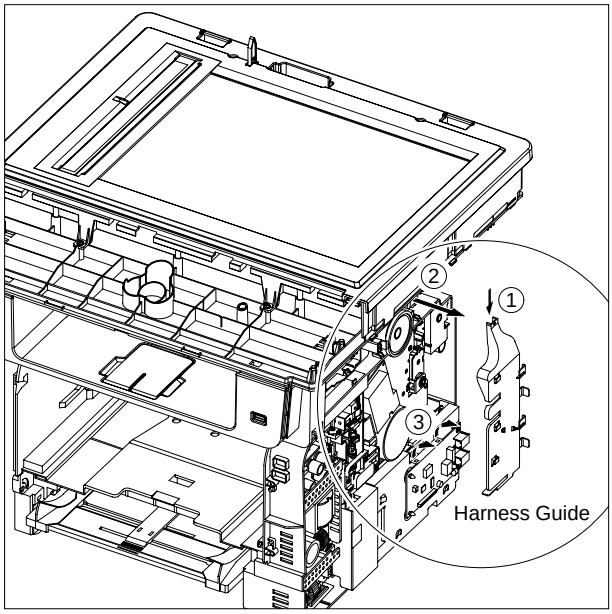
5.11 Platen Ass'y

1. Before you remove the Platen Ass'y, you should remove:
   - OPE Unit (Refer to 5.8)
   - Side Cover Left, Right (Refer to 5.9)
   - ADF Ass'y (Refer to 5.10)

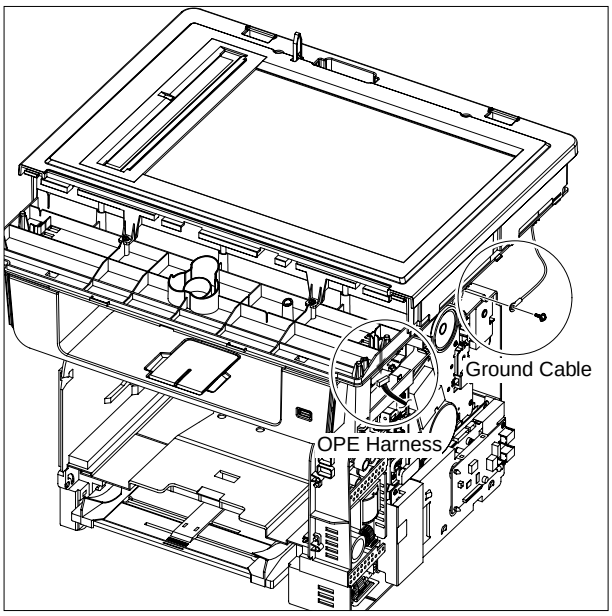
2. Remove the three screws securing the Platen Ass'y, as shown below.



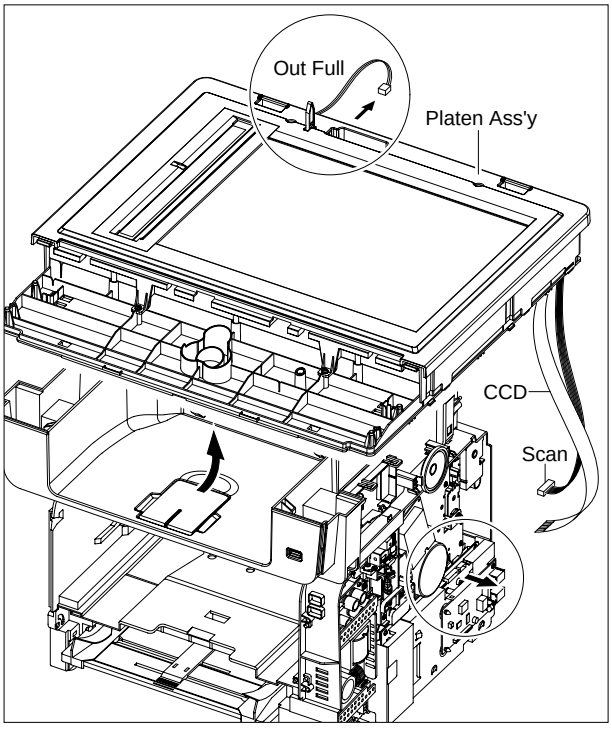
3. First carefully release the cables(CCD, Scan, Ground) from the Harness Guide and then apply light pressure to the top of the Harness Guide and pull it to the right side in the direction of arrow, as shown below.



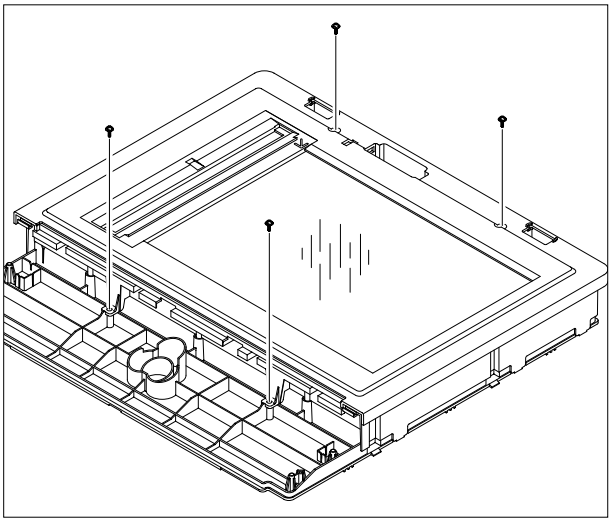
4. First release the OPE Harness in the direction of arrow and then remove the one screw securing the Ground Cable, as shown below.



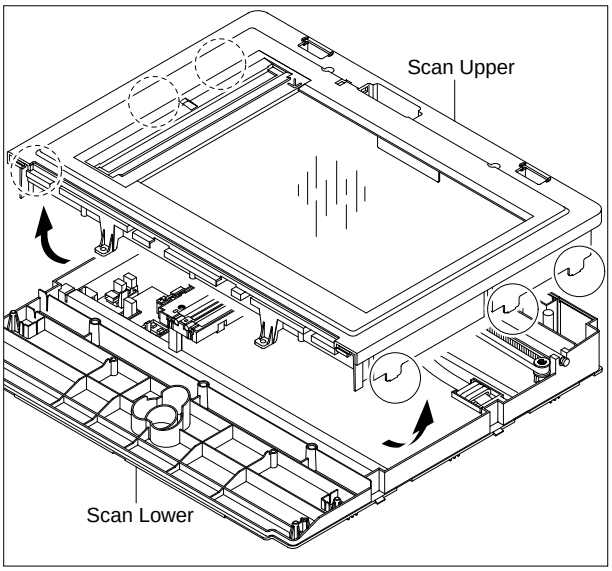
5. Unplug the two connectors(Scan, Out Full) and CCD Cable and then lift the Platen Ass'y in the direction of arrow, as shown below.



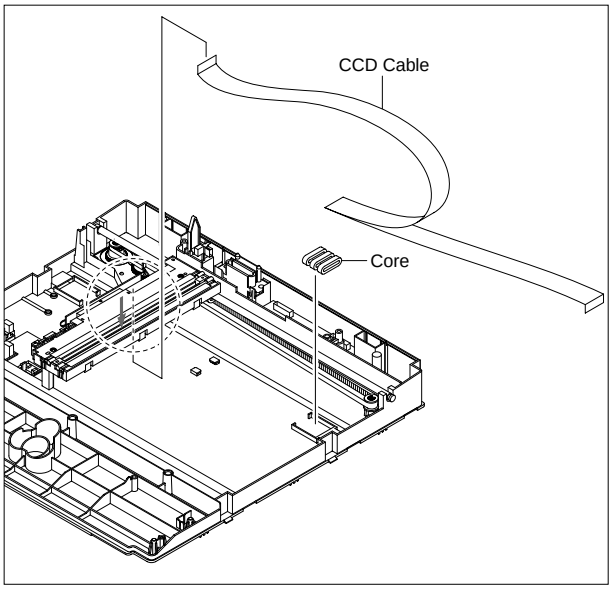
6. Remove the four screws securing the Scan Upper.



7. Release the six hooks securing the Scan Upper to the Scan Lower and remove it, as shown below.

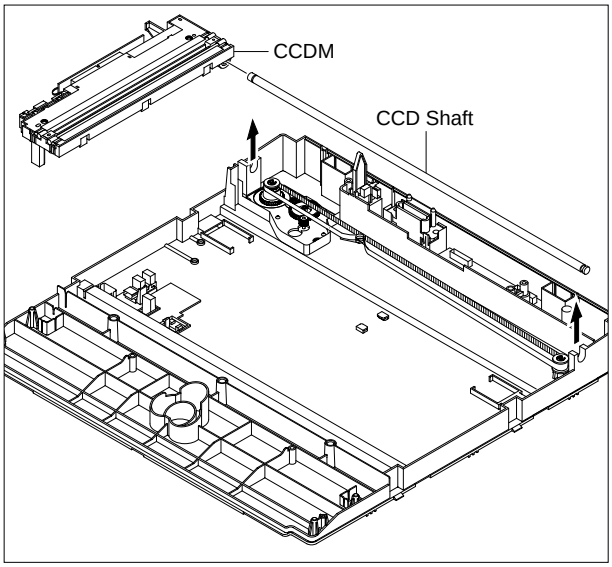


8. Remove the CCD Cable, as shown below.

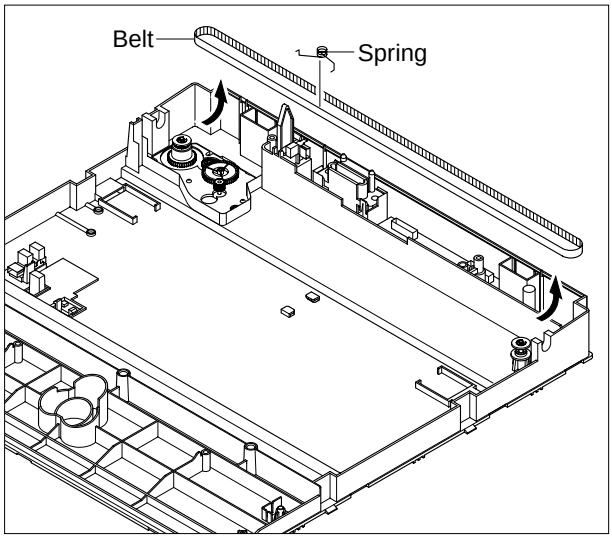


Notice: You should connector remove the CCD Cable vertically to avoid the CCD Cable pin damage.

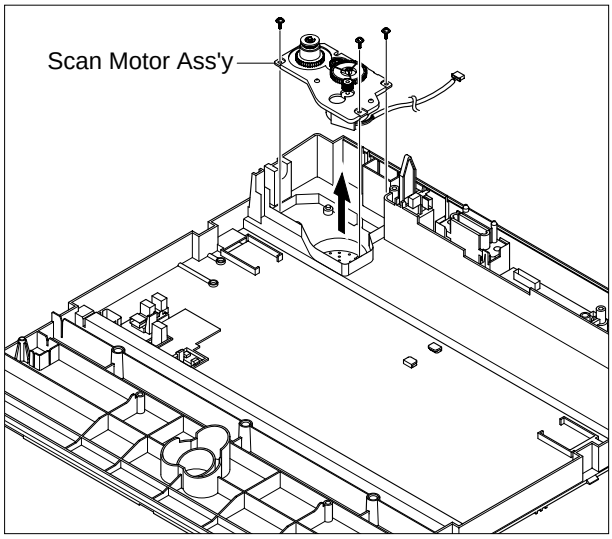
9. Pull up the CCD Shaft and take out the CCDM.



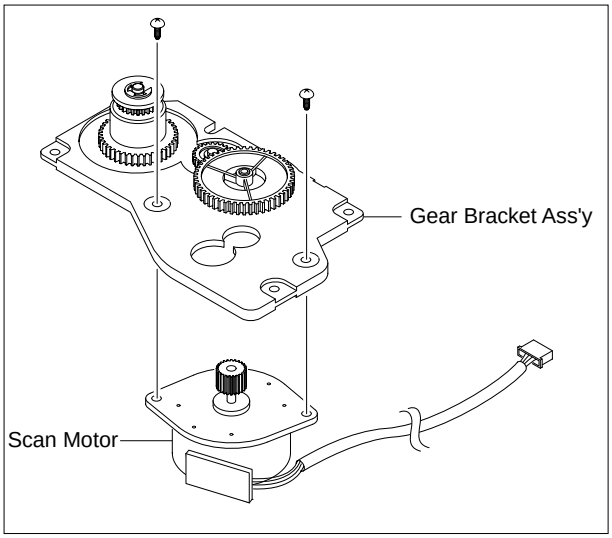
10. Squeeze the spring to release the tension in the Belt and lift from the pulleys, as shown below.



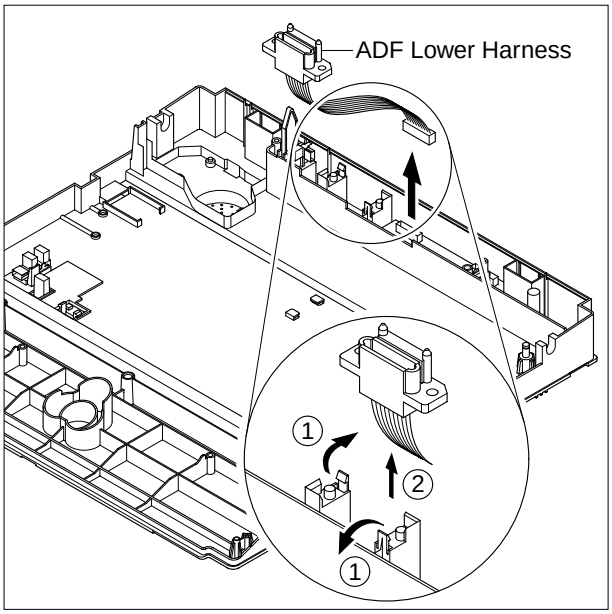
11. Remove the three screws securing the Scan Motor Ass'y and then unplug the connector from the Joint PBA.



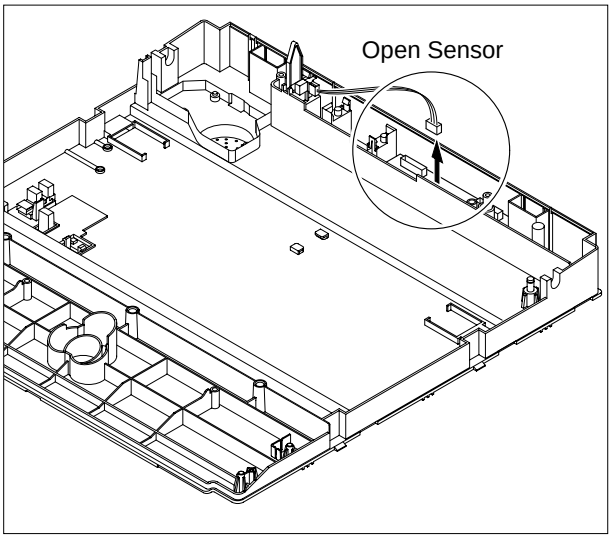
12. If necessary, remove the two screws securing the Scan Motor and remove it, as shown below.



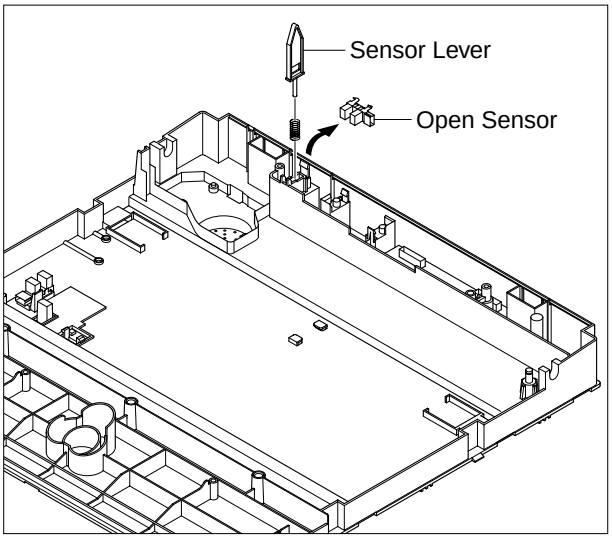
13. To remove the ADF Lower Harness, first unlatch the hooks in the direction of arrow and then Unplug the connector from the Joint PBA, as shown below.



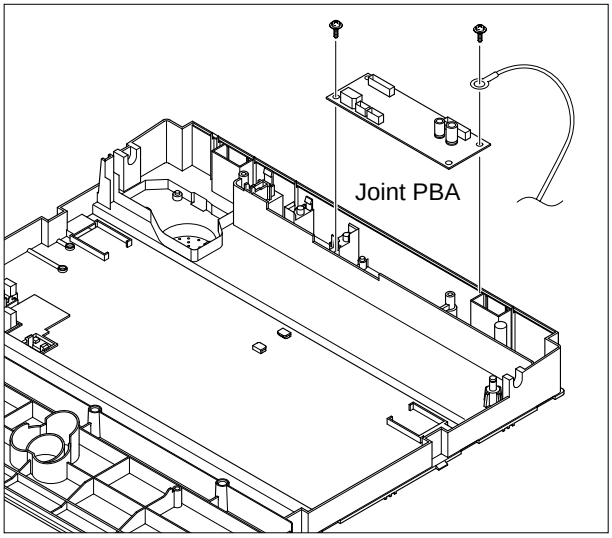
14. Unplug the Open Sensor connector from the Joint PBA.



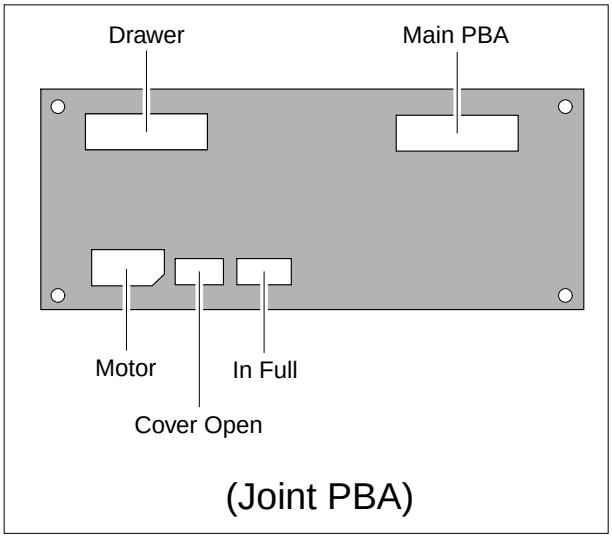
15. Unlatch the Open Sensor and remove it, as shown below.



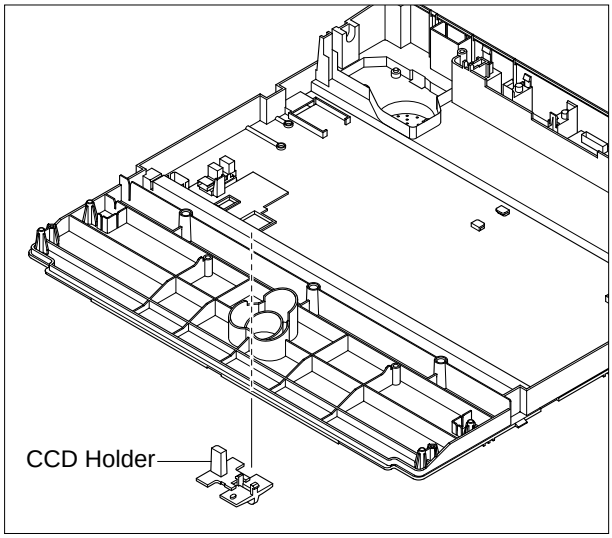
16. Remove the two screws securing the Joint PBA and remove it, as shown below.



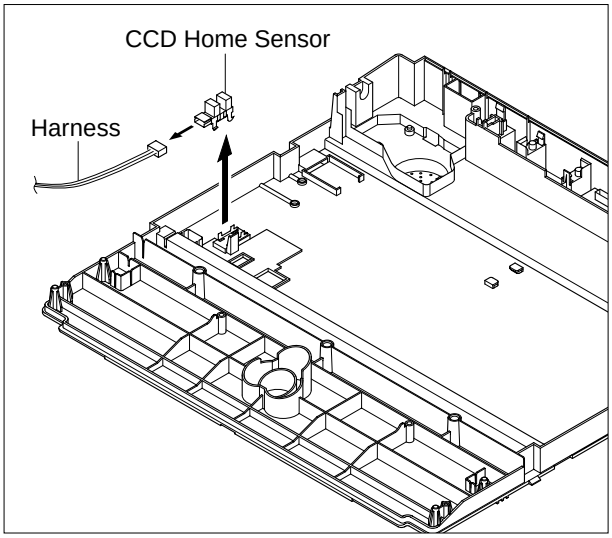
17. The connectors are located, as shown below.



18. Remove the CCD Holder.



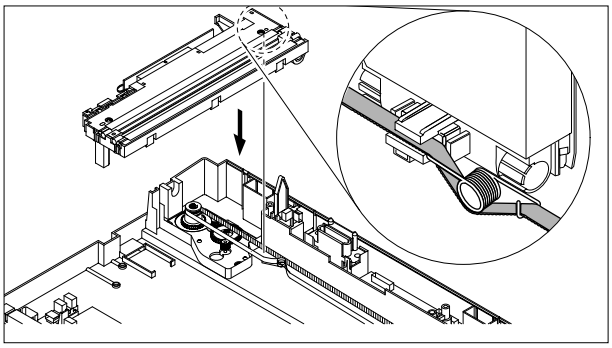
19. Unplug the Harness from the CCD Home Sensor and release the CCD Home Sensor, as shown below.



Caution : Reassembling CCDM

1) When refitting the Scanner Belt and Belt Spring take care to relocate the tension spring as close to the right side of the CCDM as is possible, as shown below.

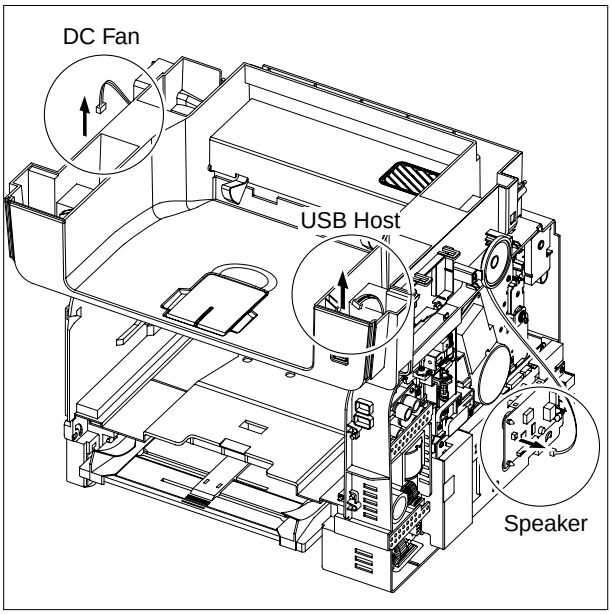
2) When refitting the Scan Upper Cover take care to ensure that the Cover Open Switch is not trapped.



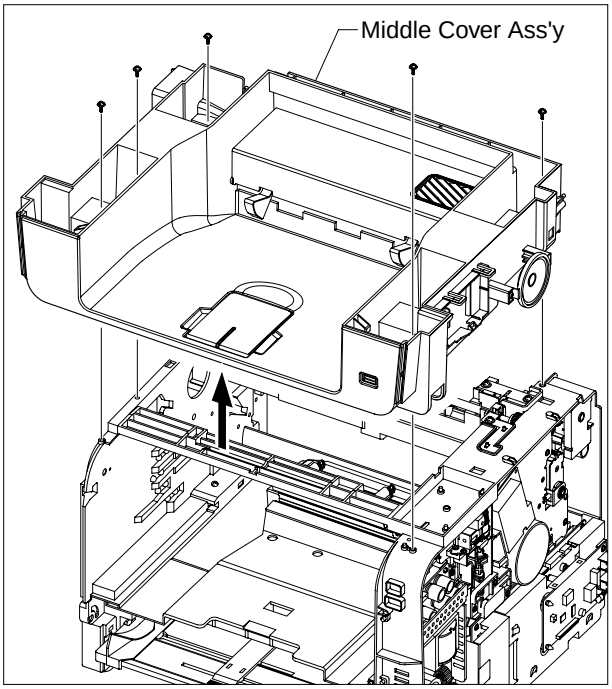
5.12 Middle Cover Ass'y

1. Before you remove the Middle Cover Ass'y, you should remove:
   - Side Cover Left (Refer to 5.9)
   - Platen ass'y (Refer to 5.11)

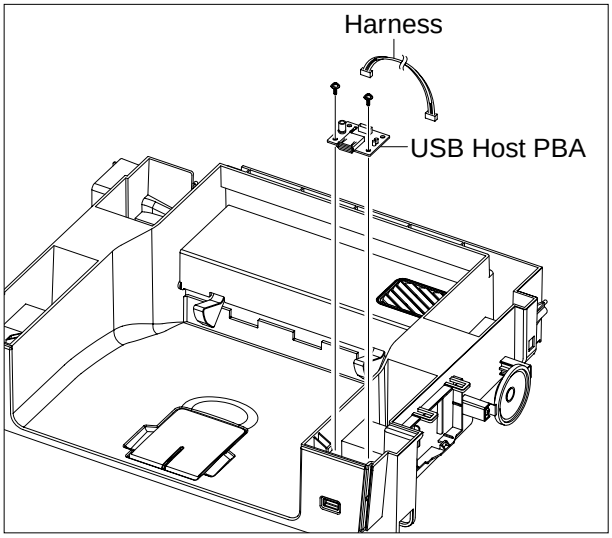
2. Unplug the three connectors(USB, Speaker, Fan), as shown below.



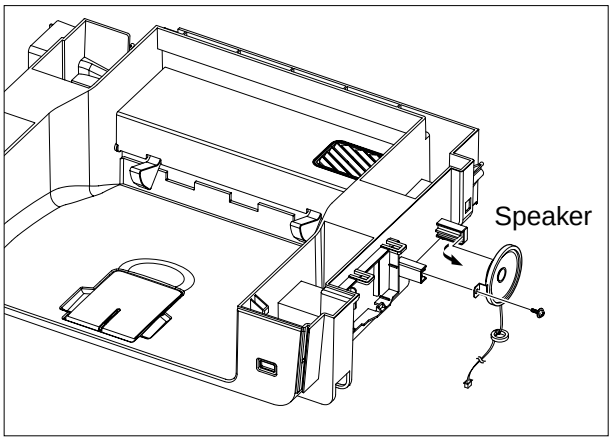
3. Remove the five screws securing the Middle Cover Ass'y and then lift the Middle Cover Ass'y, as shown below.



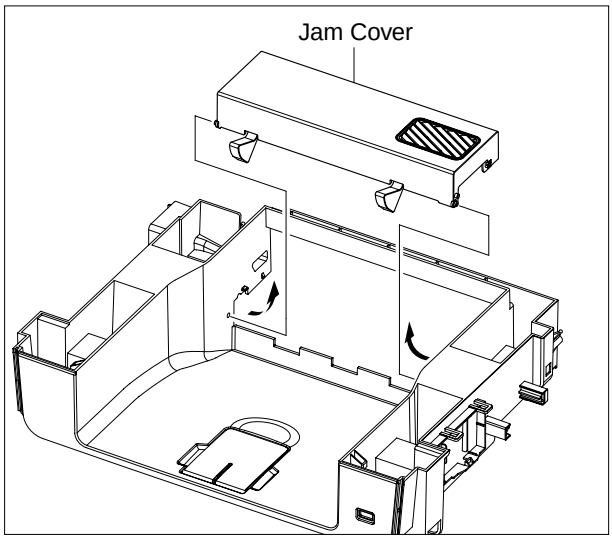
4. Remove the two screws securing the USB Host PBA and remove it.



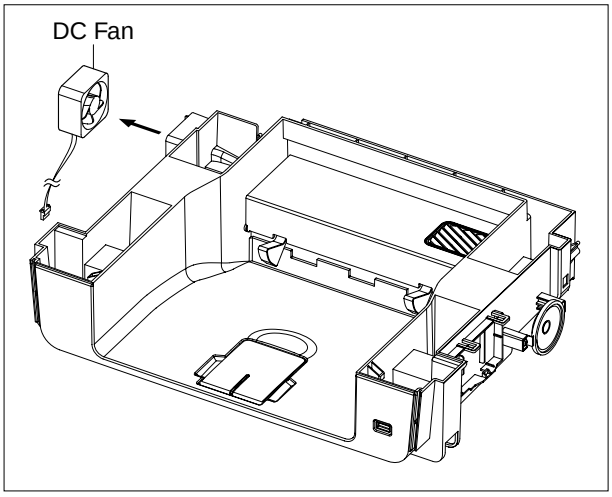
5. Remove the one screw securing the Speaker and then release the Speaker, as shown below.



6. If necessary, apply light pressure to the both side of the Jam Cover and pull it in the direction of arrow, as shown below.



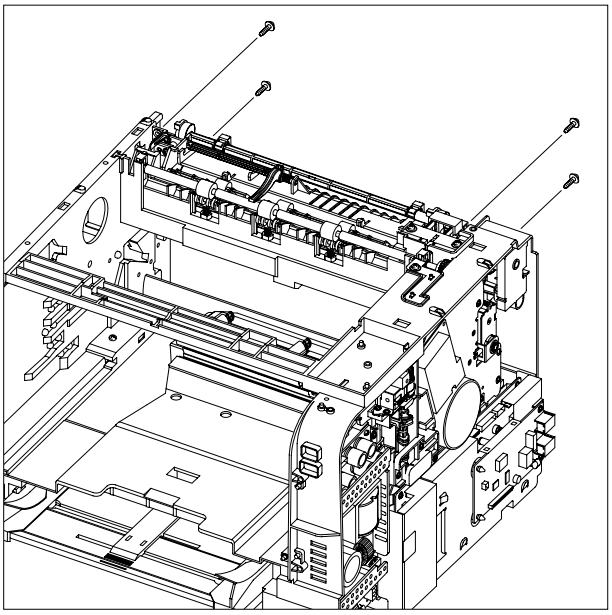
7. Pull the DC Fan from the Middle Cover Ass'y, as shown below.



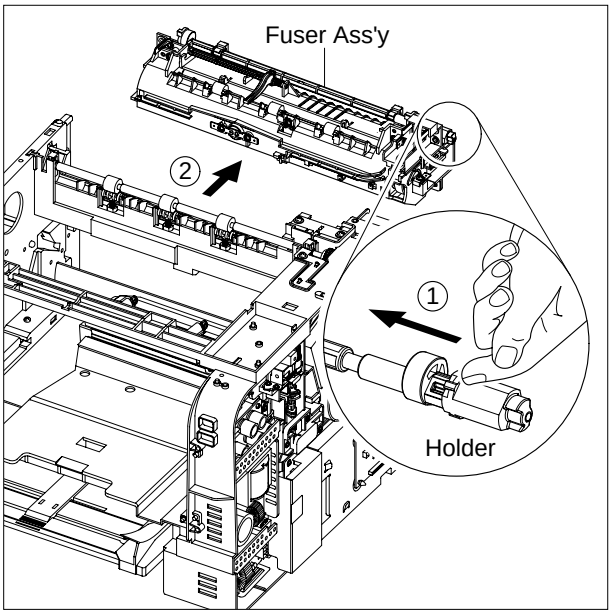
5.13 Fuser Ass'y

1. Before you remove the Fuser Ass'y, you should remove:
   - Rear Cover (Refer to 5.7)
   - Side Cover Left, Right (Refer to 5.9)
   - Middle Cover Ass'y (Refer to 5.12)

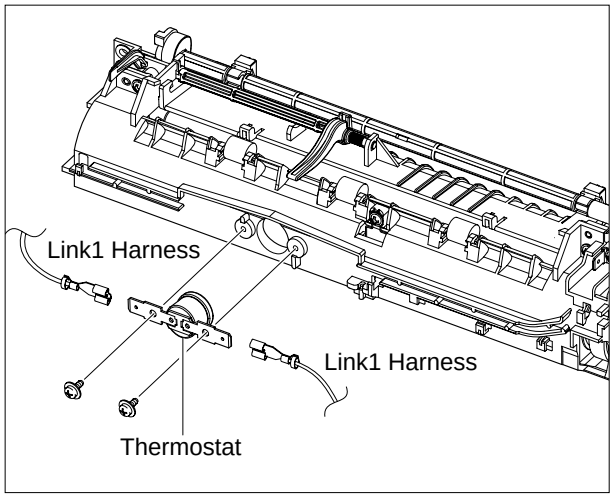
2. Remove the four screws securing the Fuser Ass'y, as shown below.



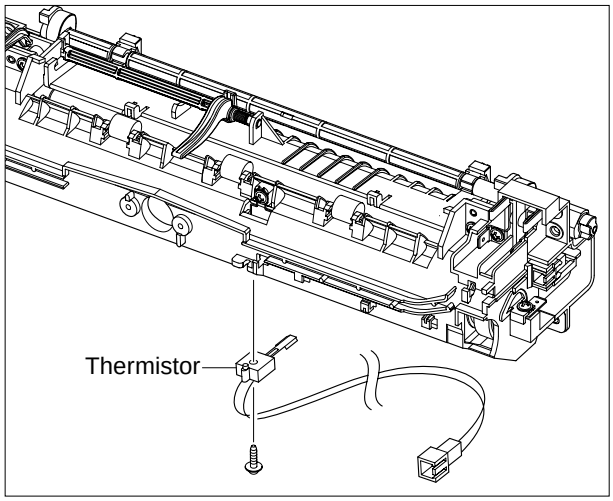
3. To remove the Fuser Ass'y, first pull the Holder in the direction of arrow and then take out the Fuser Ass'y, as shown below.



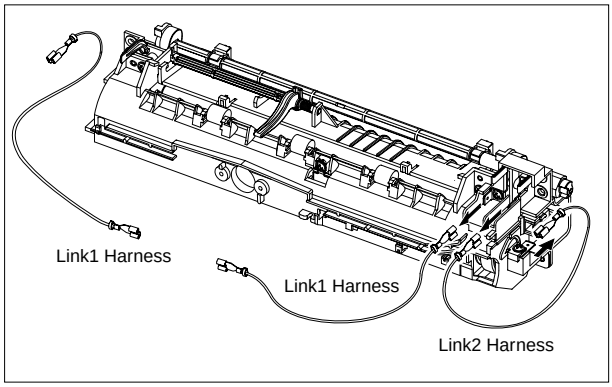
4. To remove the Thermostat, first release the Link1 Harness below the both side of the Thermostat and then remove the two screws securing the Thermostat and remove it, as shown below.



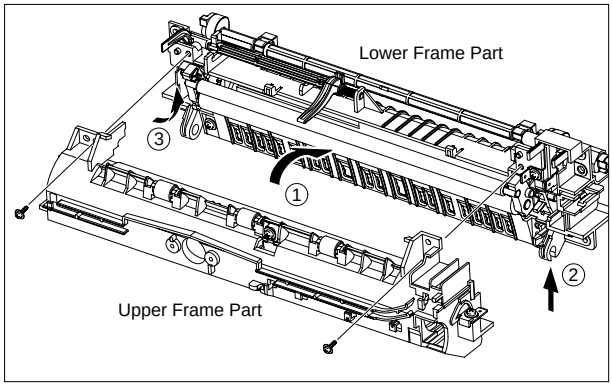
5. Remove the one screw securing the Thermistor and release it, as shown below.



6. For easy disassembly, release the Link1 Harness and Link2 Harness, as shown below.

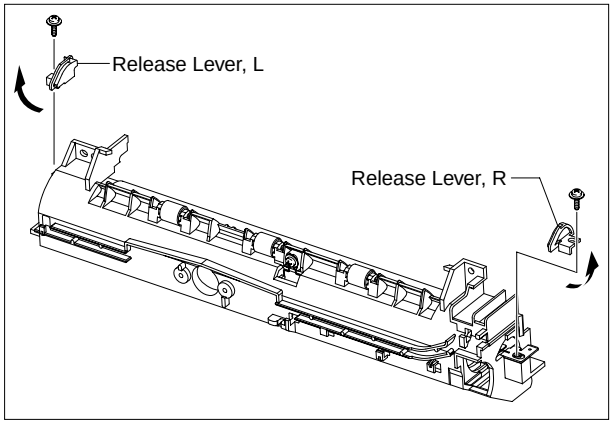


7. Remove the two screws securing the Upper Frame part and then separate the Lower Frame part in the direction of arrow, as shown below.

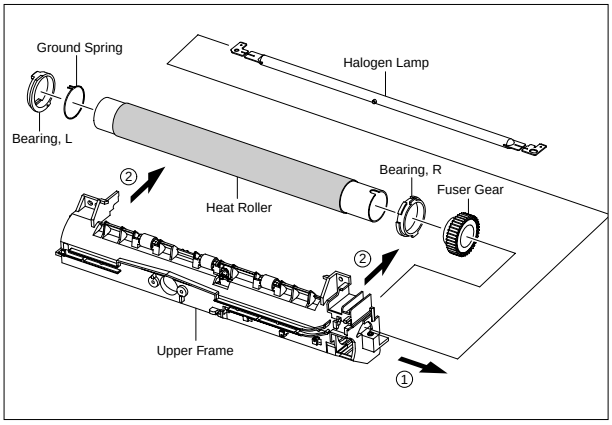


Notice: Be careful especially not to damage the covering of the Fuser Ass'y (If the cover is damaged, it could cause an electric leakage)

8. Remove the two screws securing the Release Lever(L, R) below the both side of the Halogen Lamp and then remove the Release Lever(L,R) in the direction of arrow.

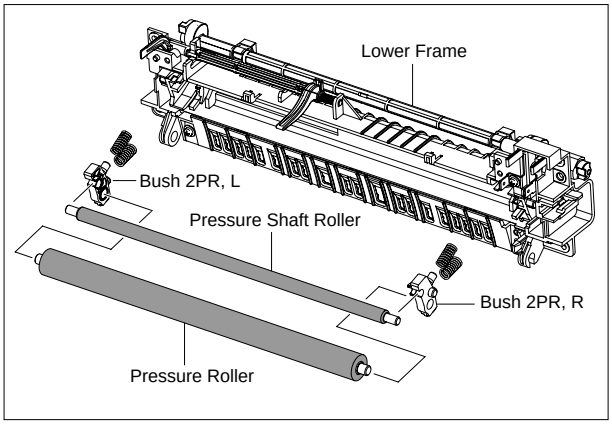


9. Take out the Halogen Lamp in the direction of arrow and then release the Heat Roller, as shown below.



Notice: Be careful not to damage or contaminate the surface of the roller when assembling and disassembling the Heat Roller.

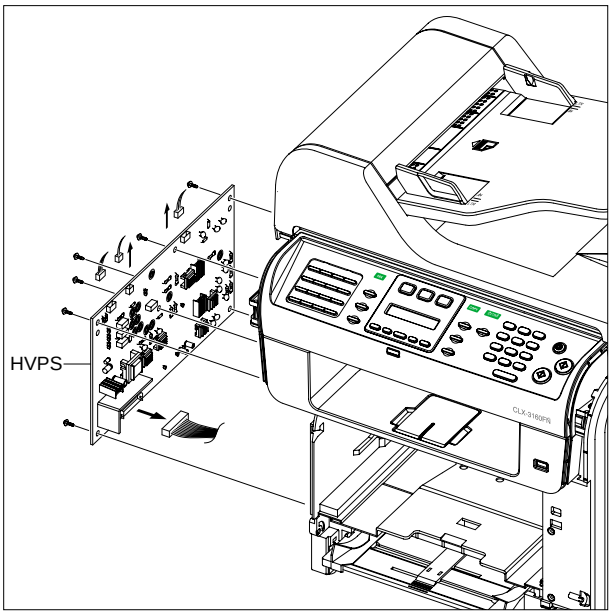
10. Release the Pressure Shaft Roller and Pressure Roller in the direction of arrow, as shown below.



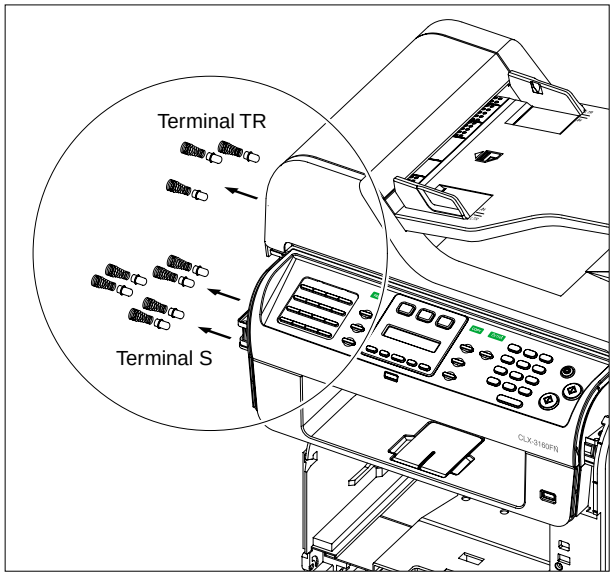
5.14 HVPS

1. Before you remove the HVPS, you should remove:
   - Side Cover Left (Refer to 5.8)

2. Remove the six screws securing the HVPS and then unplug the all connectors, as shown below.



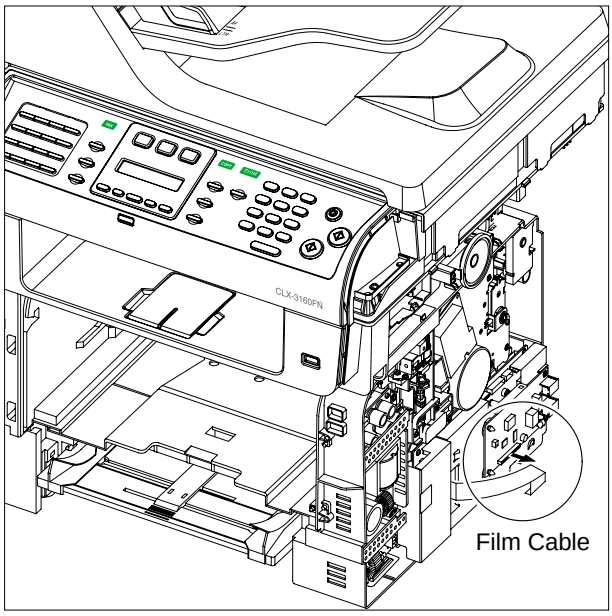
Notice: Be aware of the Terminals(TR, S) to ensure they are not lost.



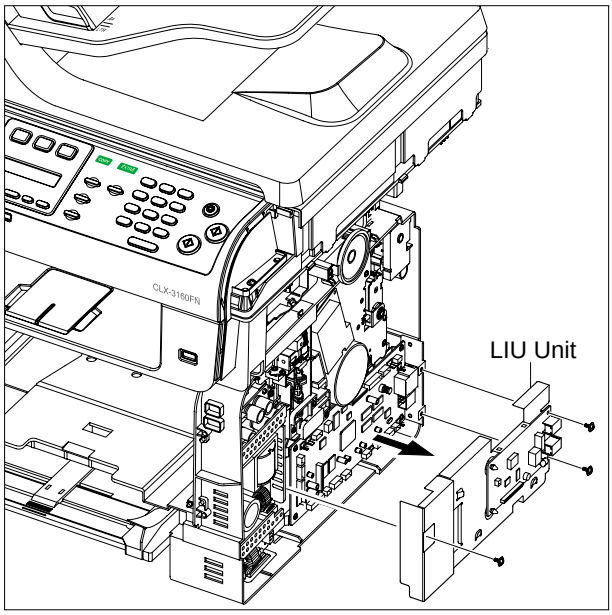
5.15 LIU Unit

1. Before you remove the LIU Unit, you should remove:
   - Side Cover Right (Refer to 5.9)
   - Harness Guide (Refer to 5.11.3)

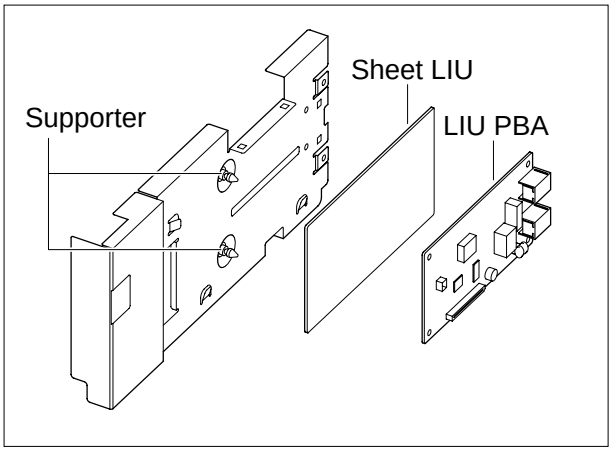
2. Unplug the Film Cable from the LIU PBA.



3. Remove the three screws securing the LIU Unit and remove it, as shown below.



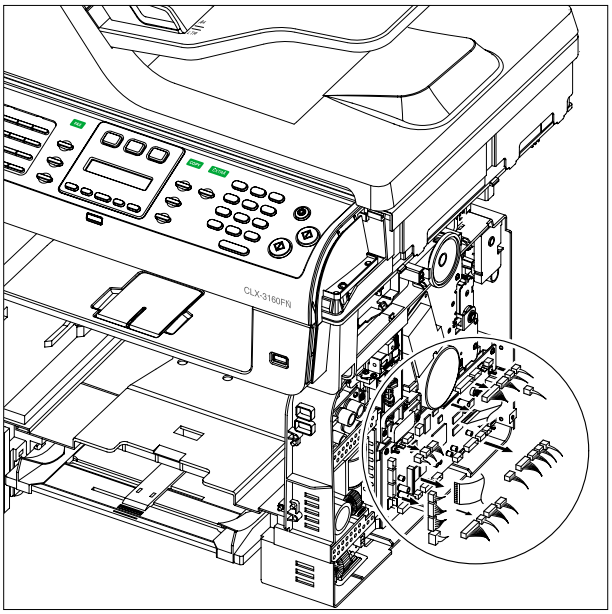
4. If necessary, remove the LIU PBA from the Supporters, as shown below.



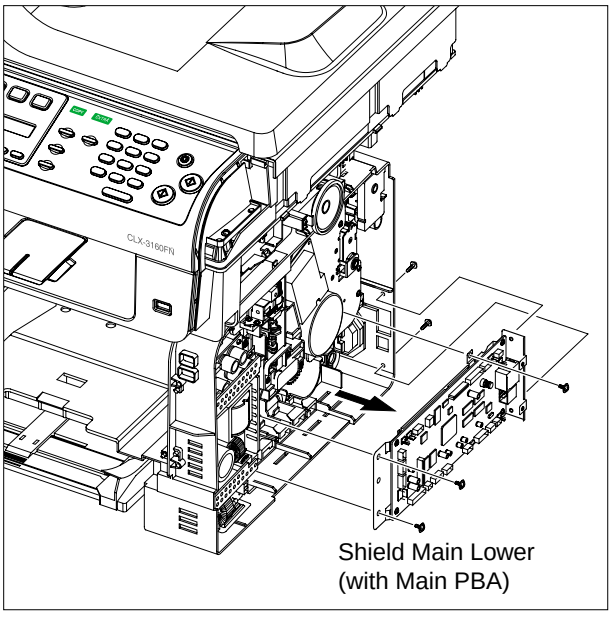
5.16 Shield Main Lower (with Main PBA)

1. Before you remove the Shield Main Lower(with Main PBA), you should remove:
   - LIU Unit (Refer to 5.15)

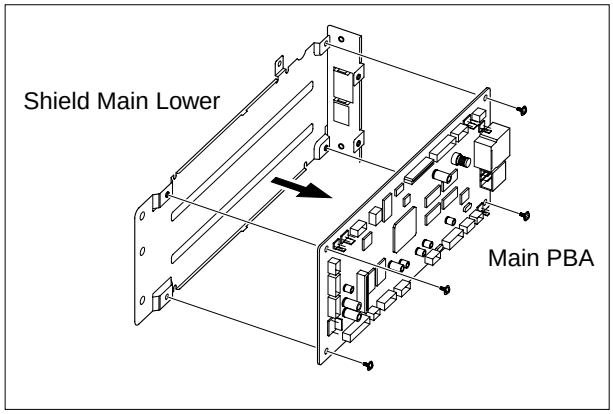
2. Unplug the all connectors from the Main PBA.



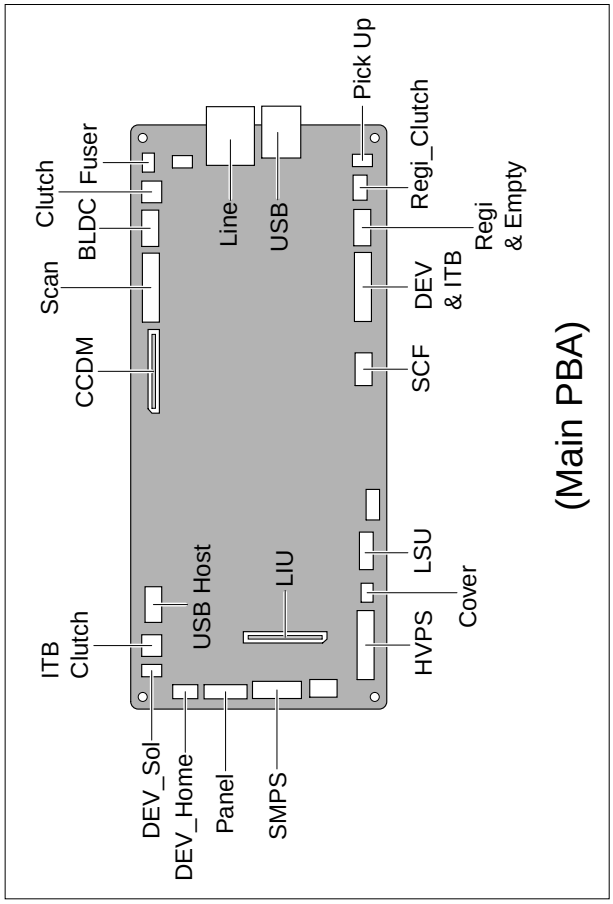
3. Remove the five screws securing the Shield Main Lower(with Main PBA) and remove it.



4. If necnsary, remove the four screws securing the Main PBA and remove it, as shown below.



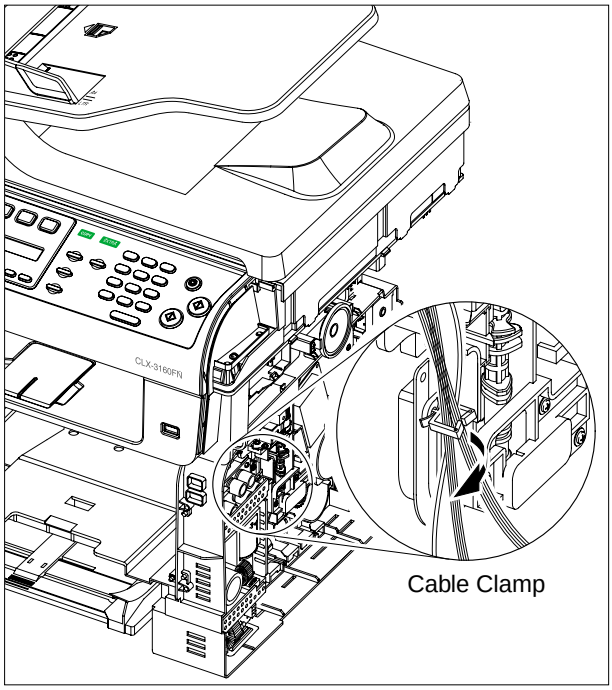
5. The connectors are located, as shown below.



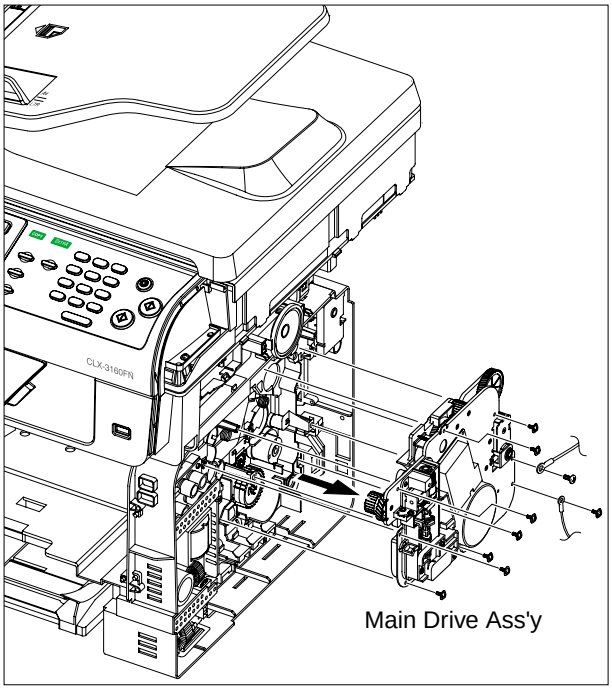
5.17 Main Drive Ass'y

1. Before you remove the Main Drive Ass'y, you should remove:
   - LIU Unit (Refer to 5.15)
   - Shield Main Lower(with Main PBA) (Refer to 5.16)

2. Release the Harness and Cable from the Cable Clamp, as shown below.



3. Remove the nine screws securing the Main Drive Ass'y and remove it, as shown below.

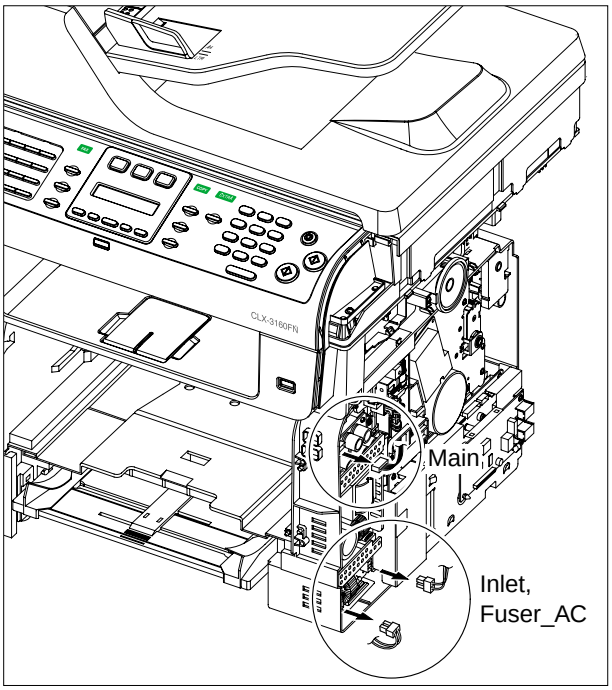


Notice: The eight screws have numbers stamped into the Main Drive Ass'y base plate.
When refitting the Main Drive Ass'y tighten the screws the order they are numbered.

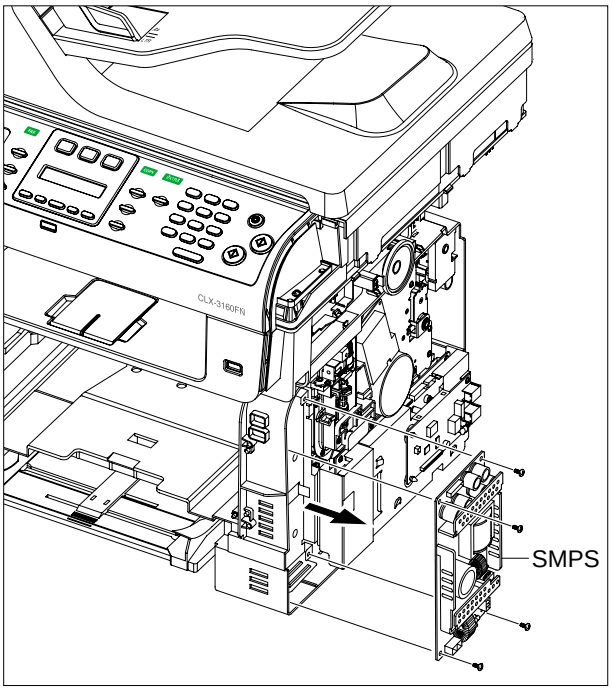
5.18 SMPS

1. Before you remove the SMPS, you should remove:
 - Side Cover Right (Refer to 5.9)

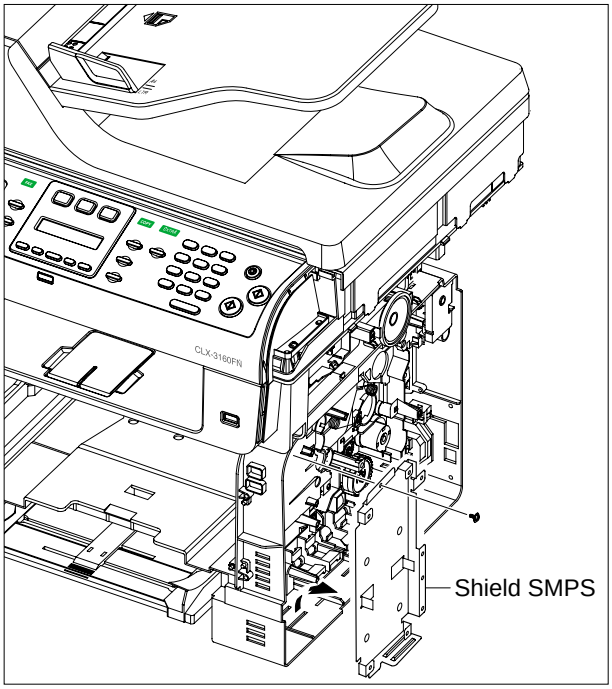
2. Unplug the all connectors(Main PBA, Inlet, Fuser_AC) from the SMPS, as shown below.



3. Remove the four screws securing the SMPS and remove it.



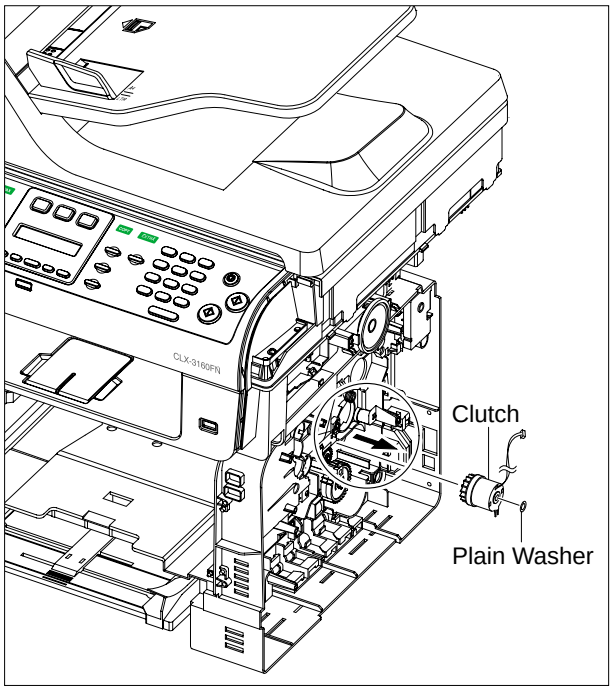
4. If necessary, first remove the Shield Main Lower (refer to 5.16) and Main Drive Ass'y (refer to 5.17) and then remove the one screw securing the Shield SMPS and remove it in the direction of arrow.



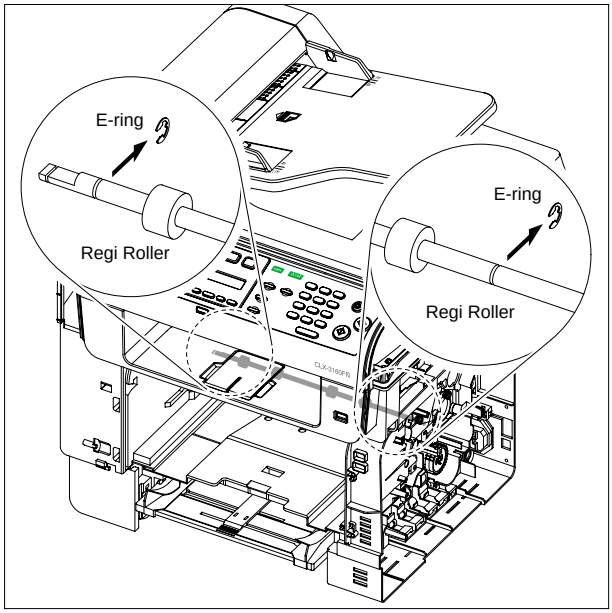
5.19 Regi Roller

1. Before you remove the Regi Roller, you should remove:
   - HVPS (Refer to 5.14)
   - LIU Unit (Refer to 5.15)
   - Shield Main Lower(with Main PBA) (Refer to 5.16)
   - Main Drive Ass'y (Refer to 5.17)

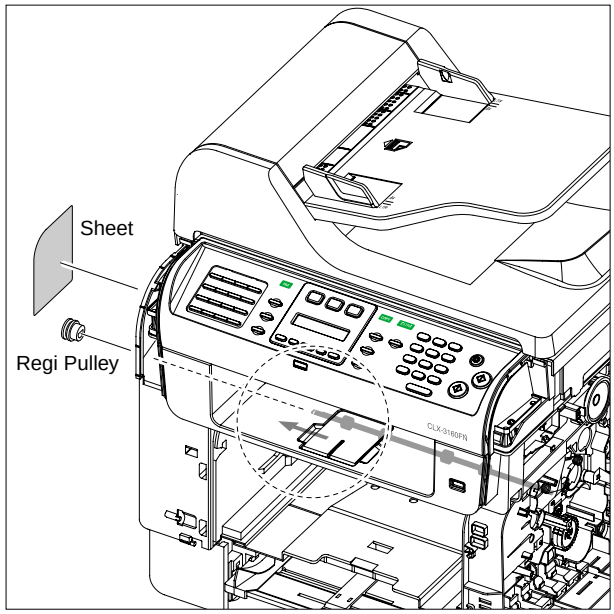
2. First remove the Plan Washer securing the Regi Clutch and then pull the Regi Clutch, as shown below.



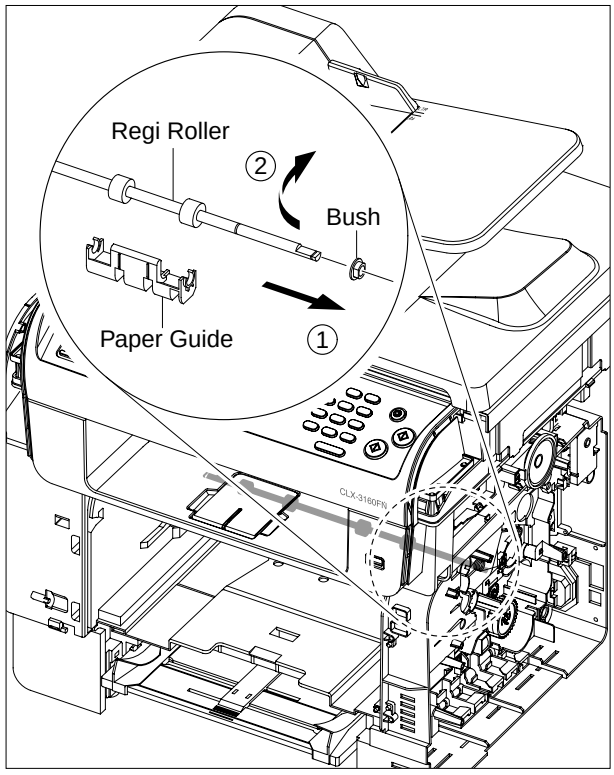
3. Remove the E-ring below the both side of the Regi Roller, as shown below.



4. Take off the Sheet and then remove the Regi Pulley, as shown below.

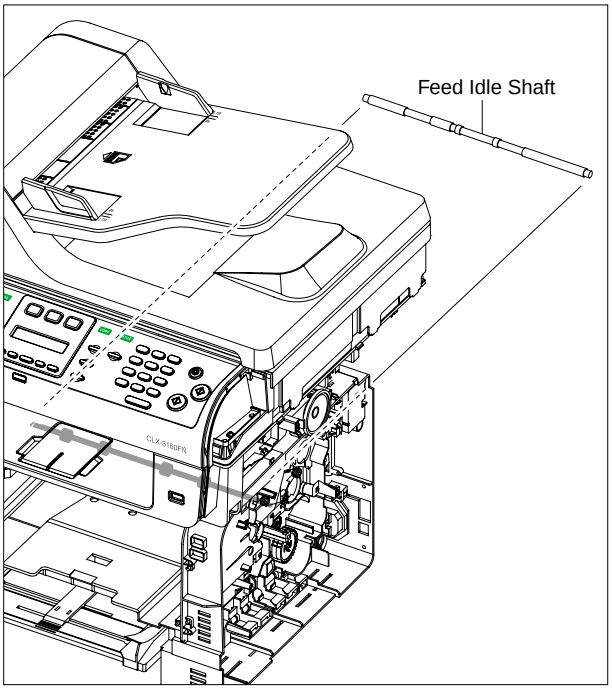


5. To remove the Regi Roller, first slide the left side to right side and then take out the left side, as shown below.



Notice : Do not grab the rubber part of the Regi Roller, it may cause a malfunction due to a foreigen object.

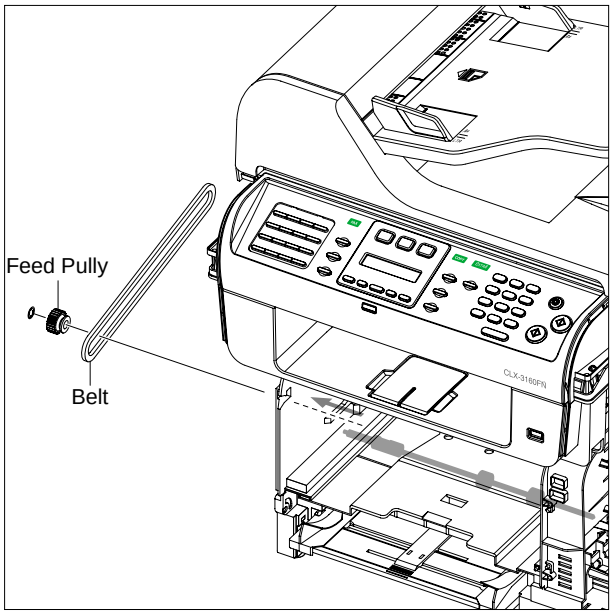
6. Pull the Feed Idle Shaft.



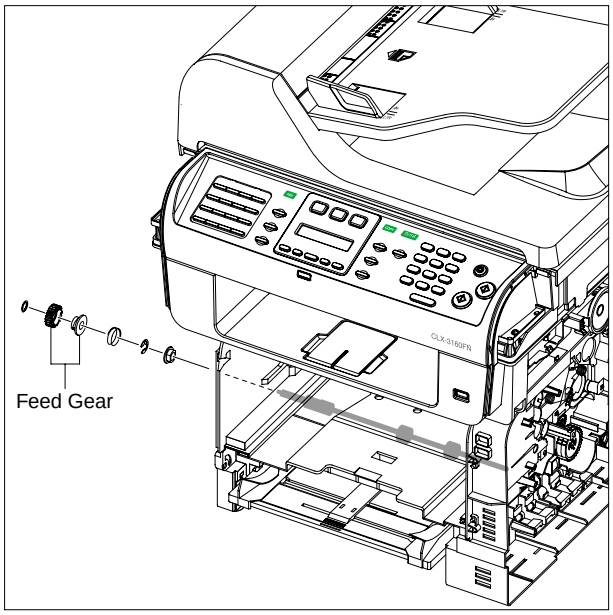
5.20 Feed Roller

1. Before you remove the Feed Roller, you should remove:
   - HVPS (Refer to 5.14)

2. Remove the Feed Pulley and Belt, as shown below.

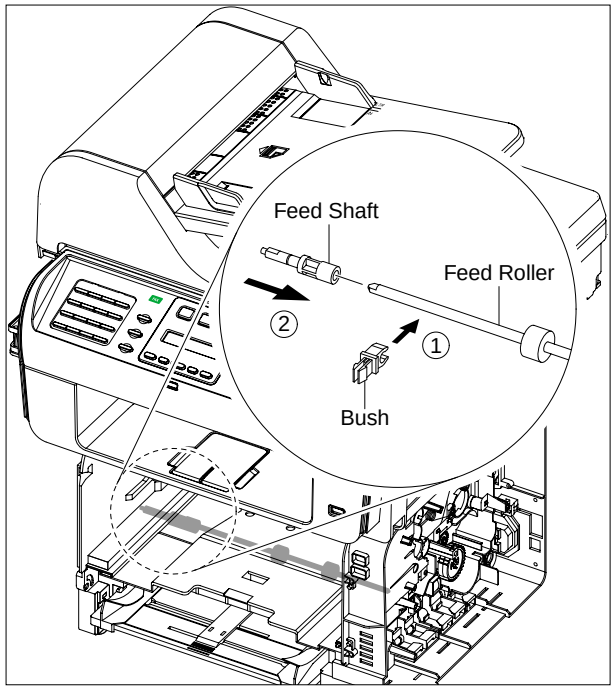


3. Remove the Feed Gear and then remove the E-ring from the Feed Shaft, as shown below.



Notice: Be aware of the E-ring and Spring to ensure they are not lost.

4. To remove the Feed Roller, first pull the Feed Roller from the Bush and then take out the Feed Roller and Feed Shaft, as shown below.

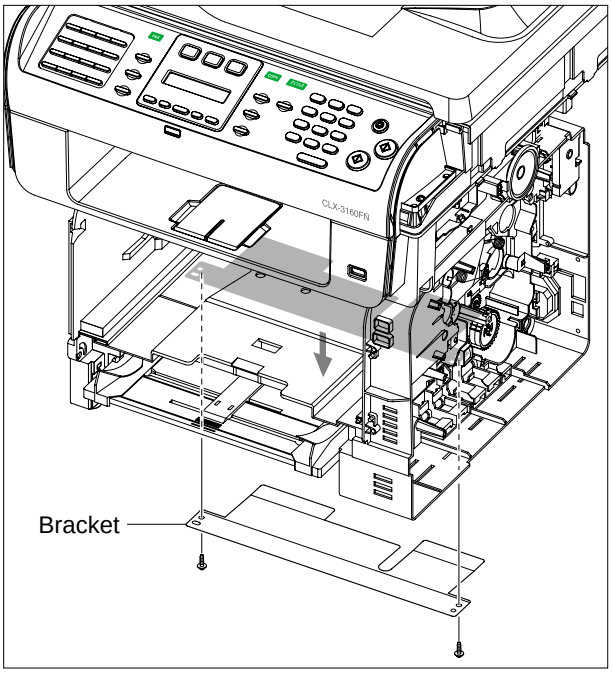


Notice : Do not grab the rubber part of the Feed Roller, it may cause a malfunction due to a foreigen object.

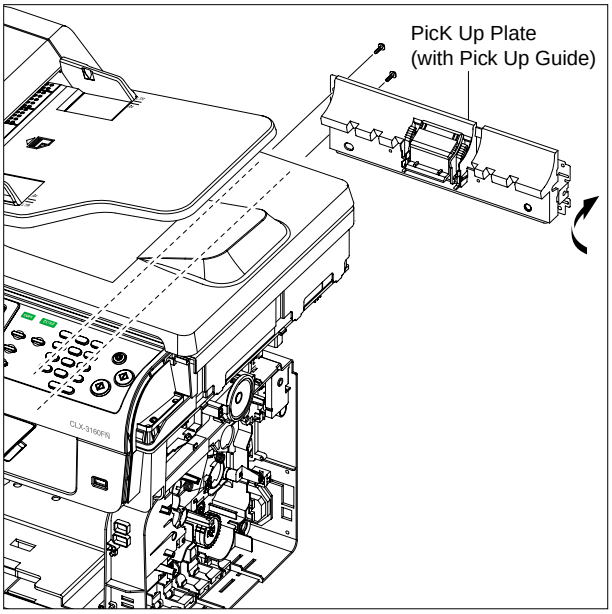
5.21 Pick Up Roller

1. Before you remove the Pick Up Roller, you should remove:
   - HVPS (Refer to 5.14)
   - LIU Unit (Refer to 5.15)
   - Shield Main Lower(with Main PBA) (Refer to 5.16)
   - Main Drive Ass'y (Refer to 5.17)

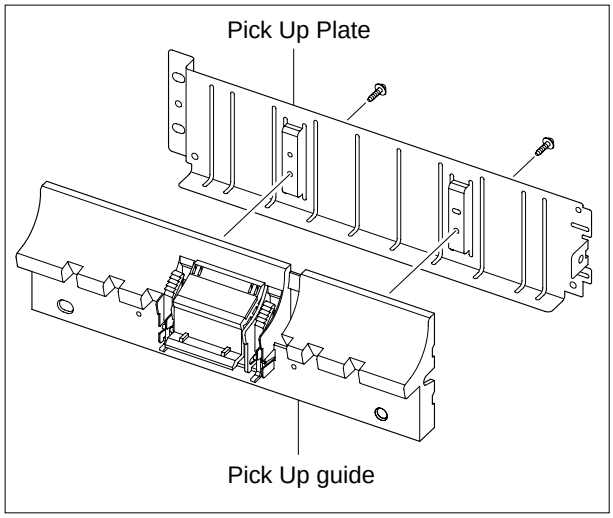
2. Remove the two screws securing the Bracket and remove it, as shown below.



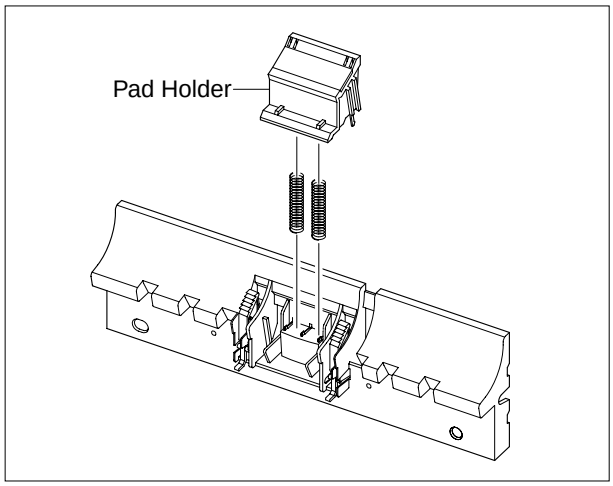
3. Remove the three screws securing the Pick Up Plate(with Pick Up Guide) and then release the Pick Up Plate in the direction of arrow.



4. If necessary, remove the two screws securing the Pick Up Plate and remove it from the Pick Up Guide, as shown below.

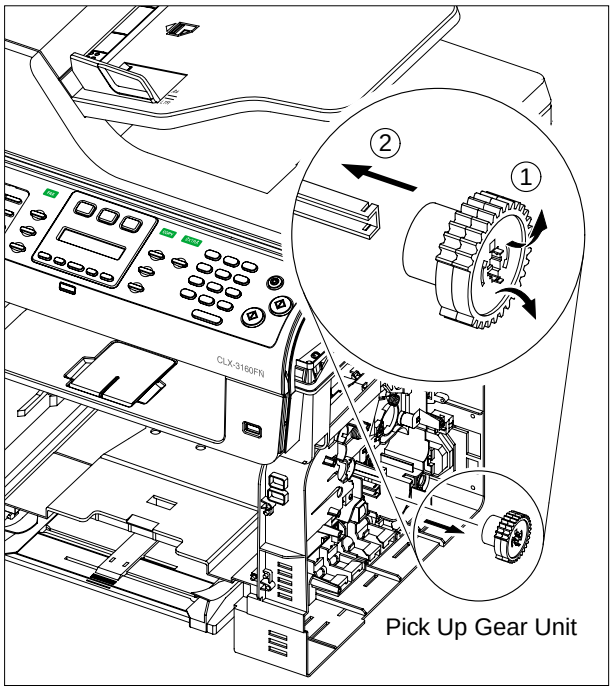


5. If necnssary, pull the Pad Holder from the Pick Up Guide, as shown below.

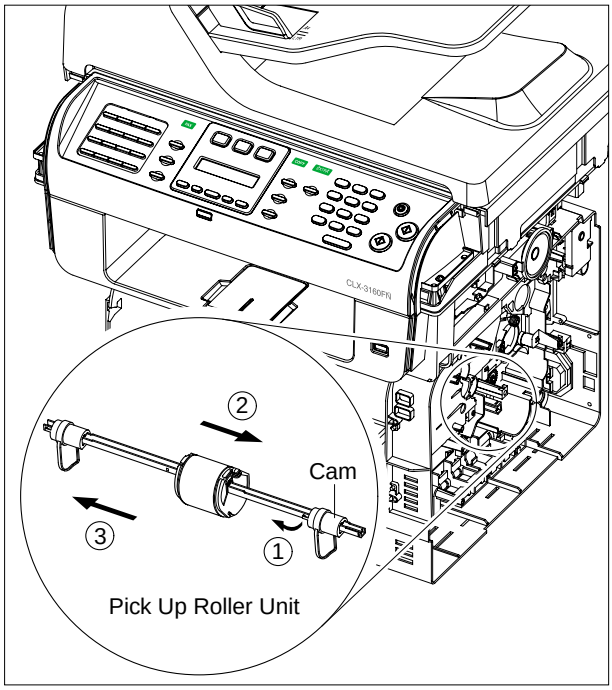


Notice: 1) Be aware of the Springs to ensure they are not lost.
2) Clean the surface of the Rubber Pad with ethylalcohol.After wiping, be sure to dry it.

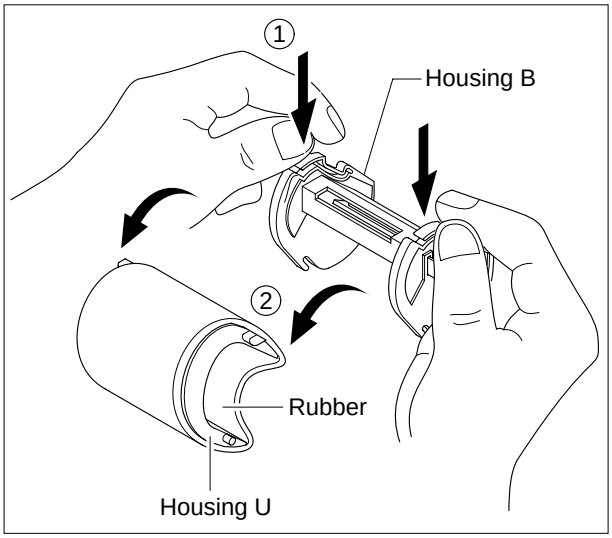
6. To remove the Pick Up Gear Unit, first unlatch the lock device of the Pick Up Gear Unit, as shown below and then pull the Pick Up Gear Unit in the direction of arrow.



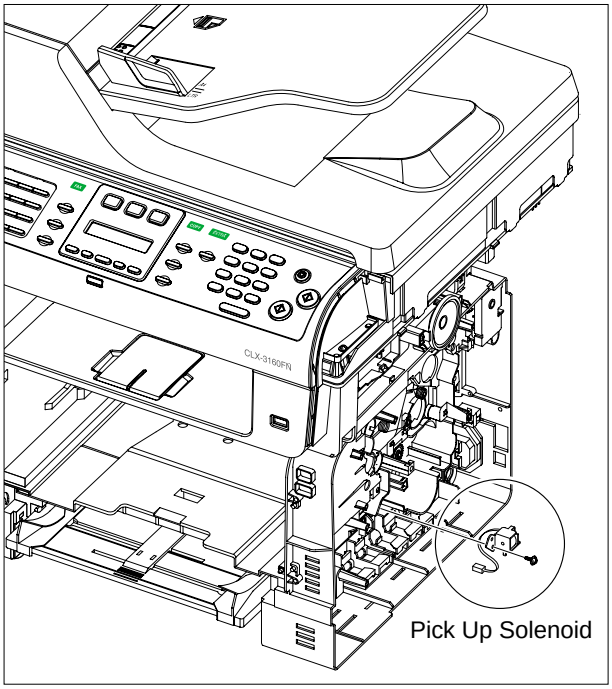
7. To remove the Pick Up Roller Unit, first lift the notch attached to the right side Pick Up Cam so that it's slide the right to left from the Pick Up Shaft, and then slide the Pick Up Roller Unit left side to right side and take out the left side, as shown below.



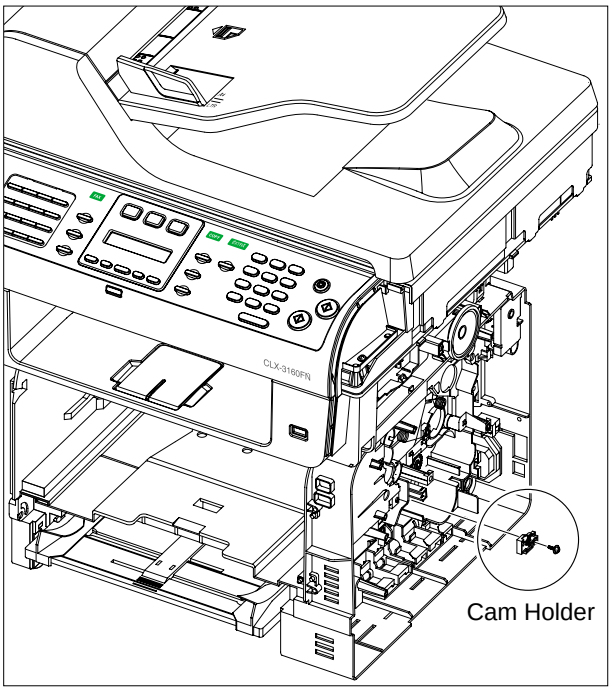
8. When if only remove the Pick Up Rubber, first pull the Pick Up Rubber(with Housing U) from the Housing B in the direction of arrow and then release the Pick Up Rubber from the Housing U, as shown below.



9. Remove the one screw securing the Pick Up Solenoid and remove it.



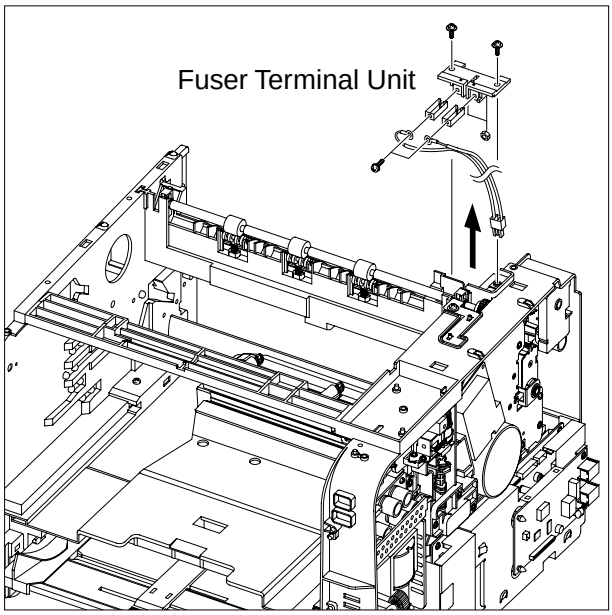
10. Remove the one screw securing the Cam Holder and remove it.



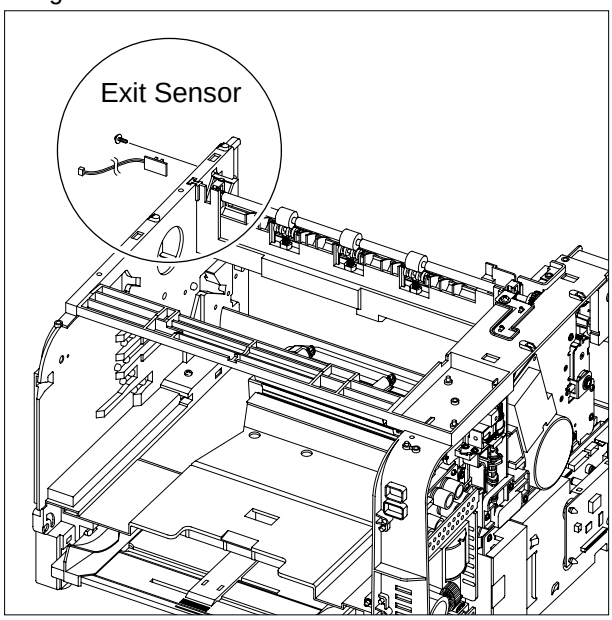
5.22 Exit Roller Unit

1. Before you remove the Exit Roller Unit, you should remove:
   - Middle Cover Ass'y (Refer to 5.12)

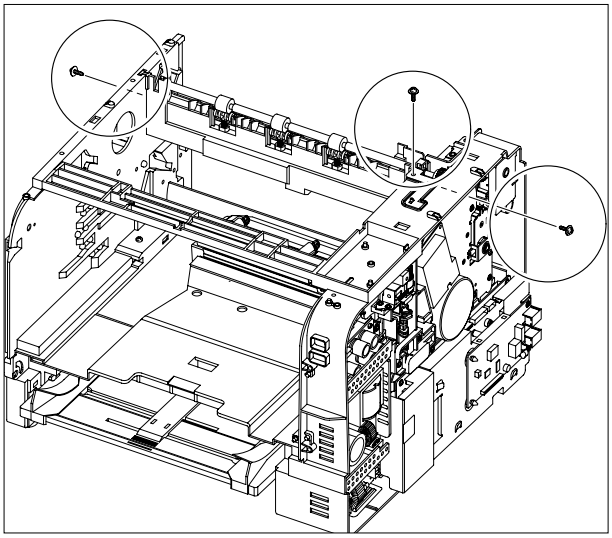
2. Remove the four screws and two nuts securing the Fuser Terminal Unit and remove it, as shown below.



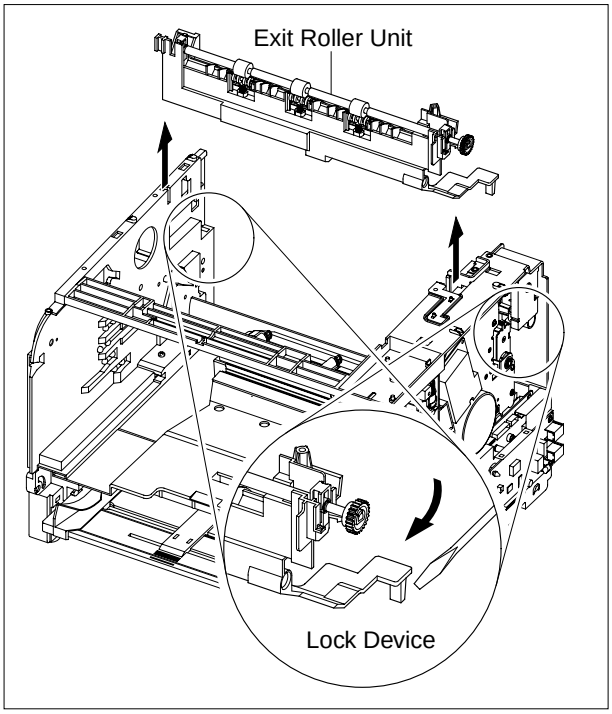
3. For easy disassembly, remove the one screw securing the Exit Sensor and remove it.



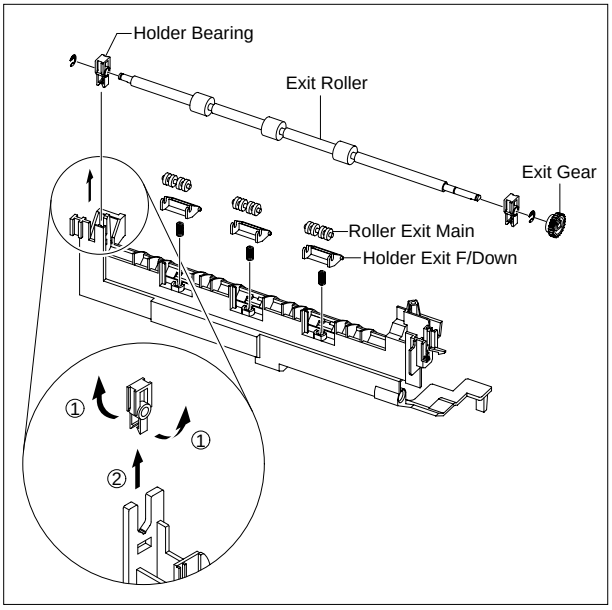
4. Remove the three screws securing the Exit Roller Unit.



5. First unlatch the lock device below the both side of the Exit Frame using a flat-blade screwdriver and then pull the Exit Roller Unit, as shown below.



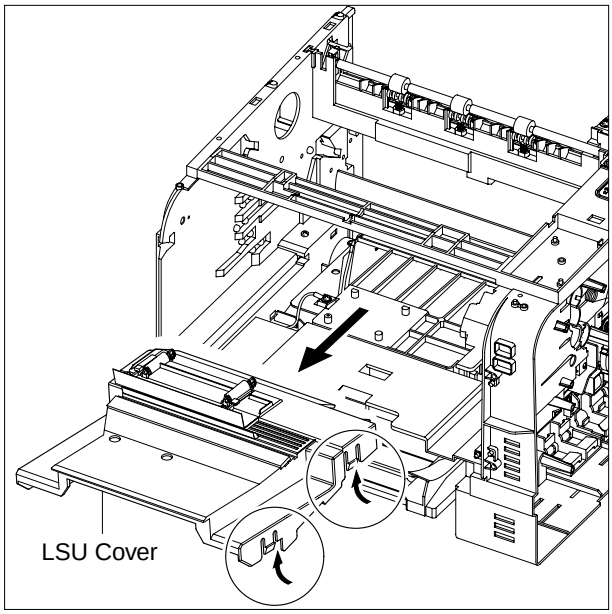
6. Remove the Holder Bearing(with Roller Exit F/Down) from the both side of the Exit Frame, as shown below and then remove the Roller Exit Main and Holder Exit F/Down.



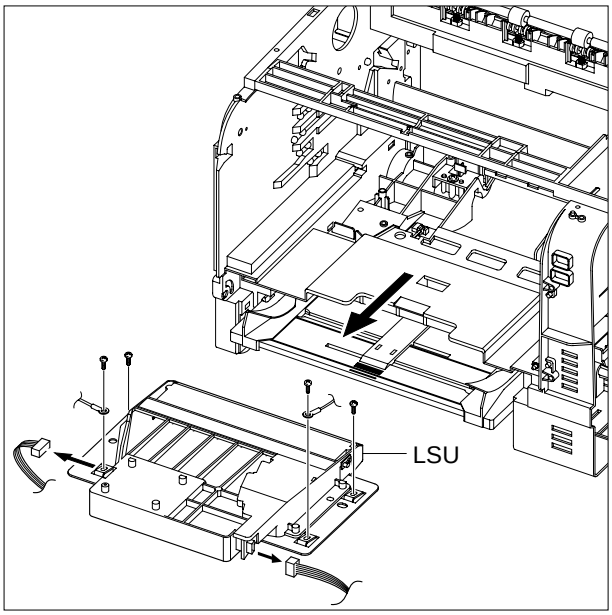
5.23 LSU

1. Before you remove the LSU, you should remove:
   - OPC DEV Unit (Refer to 5.4)
   - ITB Unit (Refer to 5.5)
   - Middle Cover Ass'y (Refer to 5.12)

2. Apply light pressure to the right side of the LSU Cover Unit and remove it in the direction of arrow.



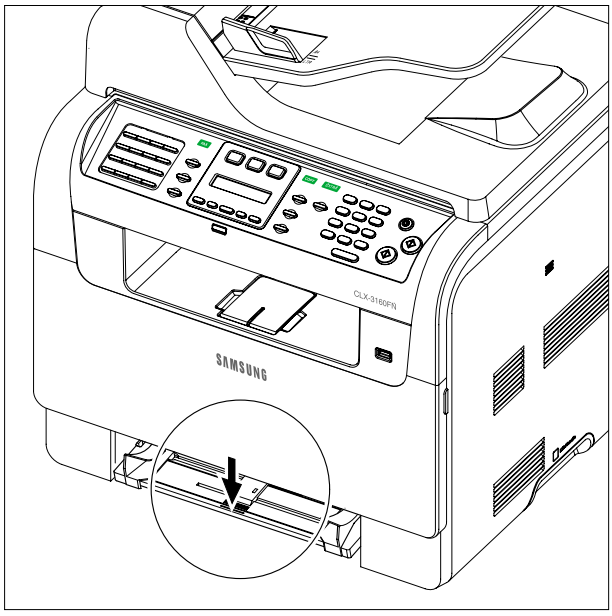
3. Unplug the two connectors and then remove the four screws securing the LSU and remove it in the direction of arrow.



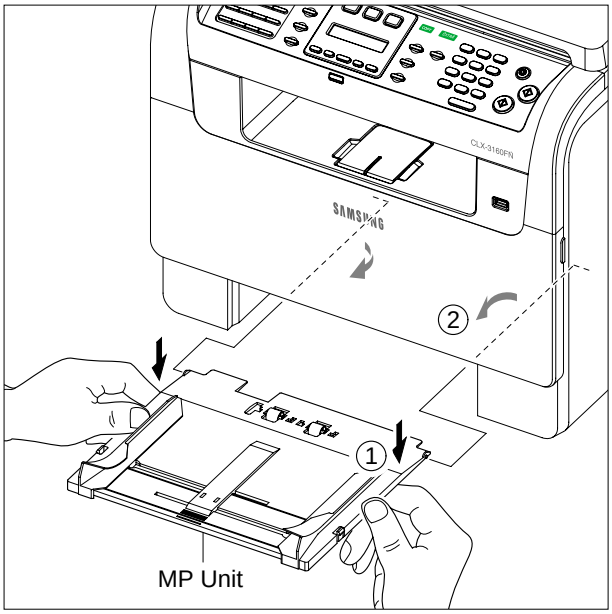
5.24 MP Unit

1. Before you remove the MP Unit, you should remove:
 - Cassette Unit (Refer to 5.3.1)

2. Down the MP Unit, as shown below.



3. Apply light pressure to the both side of the MP Unit and pull it in the direction of arrow, as shown below.

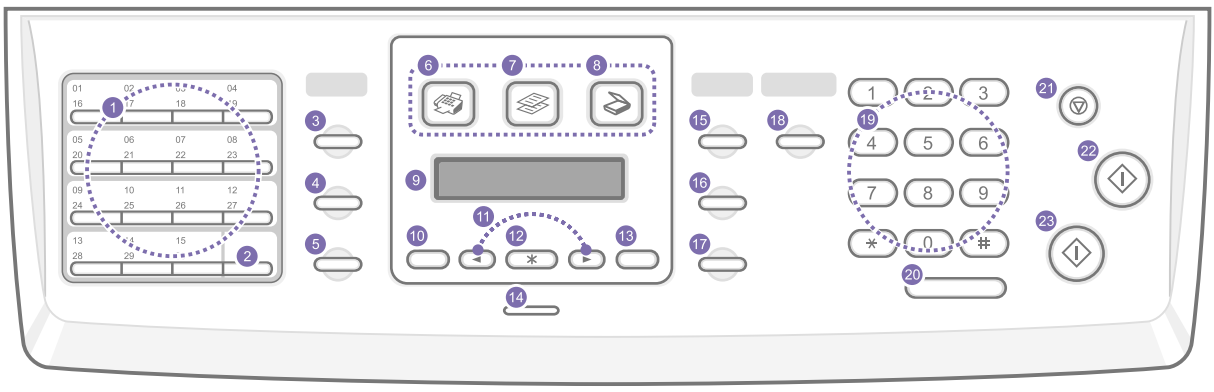


6. Alignment and Adjustments

This chapter describes some of the main service procedures including:
Using the Tech mode; Clearing paper jam and test patterns.
Much of this chapter is also included in the user's guide.

6.1 Control Panel

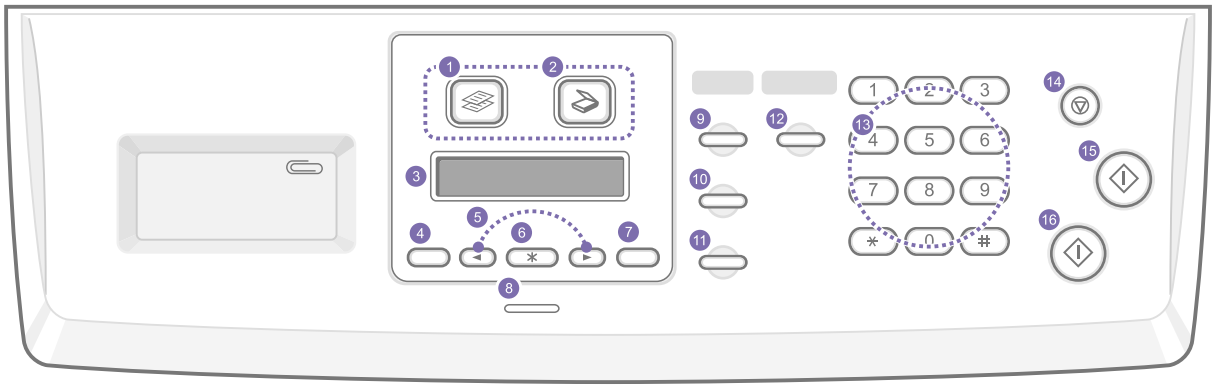
6.1.1 CLX-3160FN



1	**Speed buttons:** Allows you to store frequently-dialed fax numbers and enter them with the touch of a few buttons.
2	**Shift:** Allows you to shift the speed buttons to access numbers 16 through 30.
3	**Phone Book:** Allows you to store frequently used fax numbers in memory or search for stored fax numbers. Also allows you to print an Phone Book list.
4	**Resolution:** Adjusts the document resolution for the current fax job.
5	**Redial/Pause:** In Standby mode, redials the last number, or in Edit mode, inserts a pause into a fax number.
6	**Fax:** Activates Fax mode.
7	**Copy:** Activates Copy mode.
8	**Scan:** Activates Scan mode.
9	**Display:** Shows the current status and prompts during an operation.
10	**Menu:** Enters Menu mode and scrolls through the available menus.
11	**Scroll buttons:** Scroll through the options available in the selected menu, and increase or decrease values.

12	**OK:** Confirms the selection on the screen.
13	**Back:** Sends you back to the upper menu level.
14	**Status:** Shows the status of your machine.
15	**Darkness:** Adjusts the document brightness for the current copy job.
16	**Original Type:** Selects the document type for the current copy job.
17	**Reduce/Enlarge:** Makes a copy smaller or larger than the original.
18	**USB Print:** Allows you to directly print files stored on a USB Memory device when it is inserted into the USB memory port on the front of your machine.
19	**Number keypad:** dials a number or enters alphanumeric characters.
20	**On Hook Dial:** Engages the telephone line.
21	**Stop/Clear:** Stops an operation at any time. In Standby mode, clears/cancels the copy options, such as the darkness, the document type setting, the copy size, and the number of copies.
22	**Color Start:** Starts a job in Color mode.
23	**Black Start:** Starts a job in Black and White mode.

6.1.2 CLX-3160N



1	**Copy:** Activates Copy mode.
2	**Scan:** Activates Scan mode.
3	**Display:** Shows the current status and prompts during an operation.
4	**Menu:** Enters Menu mode and scrolls through the available menus.
5	**Scroll buttons:** Scroll through the options available in the selected menu, and increase or decrease values.
6	**OK:** Confirms the selection on the screen.
7	**Back:** Sends you back to the upper menu level.
8	**Status:** Shows the status of your machine.
9	**Darkness:** Adjusts the document brightness for the current copy job.
10	**Original Type:** Selects the document type for the current copy job.

11	**Reduce/Enlarge:** Makes a copy smaller or larger than the original.
12	**USB Print:** Allows you to directly print files stored on a USB Memory device when it is inserted into the USB memory port on the front of your machine.
13	**Number keypad:** Dials a number or enters alphanumeric characters.
14	**Stop/Clear:** Stops an operation at any time. In Standby mode, clears/cancels the copy options, such as the resolution, the document type setting, the copy size, and the number of copies.
15	**Color Start:** Starts a job in Color mode.
16	**Black Start:** Starts a job in Black and White mode.

6.2 LED Function

The Status LED on the control panel shows the status of your machine.
See the table below to know your machine's status.

Status" LED		Description
Off		· The machine is off-line. · The machine is in Power Save mode. When data is received, or any button is pressed, it switches to on-line automatically.
Green	On	The machine is on-line and can be used.
	Blink	· When the backlight slowly blinks, the machine is receiving data from the computer. · When the backlight fast blinks, the machine is printing data.
Red	On	· The toner cartridge is totally exhausted. Remove the old toner cartridge and install a new one. · A paper jam has occurred. To solve the problem. · The front cover is open. Close the front cover. · There is no paper in the tray. Load paper in the tray. · The machine has stopped due to a major error. Check the display message.
	Blink	· A minor error occurs and the machine is waiting an error to be cleared. Check the display message. When the problem is cleared, the machine resumes. · The toner cartridge is low. Order a new toner cartridge. You can temporarily improve print quality by redistributing the toner.

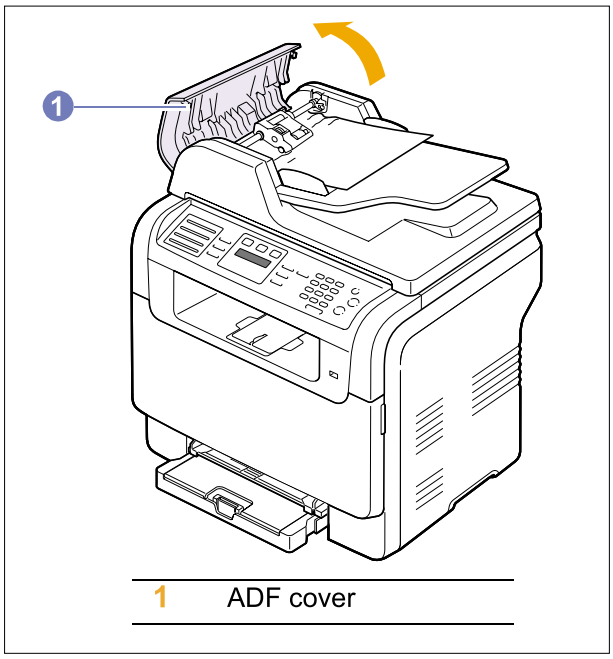
6.3 Jam Removal

6.3.1 Clearing document jams

When an original jams while passing through the ADF, Document Jam appears on the display.

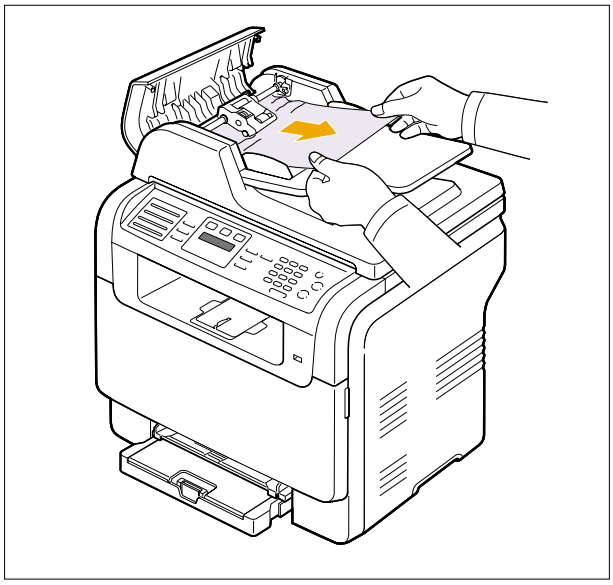
1. Remove any remaining pages from the ADF.

2. Open the ADF cover.

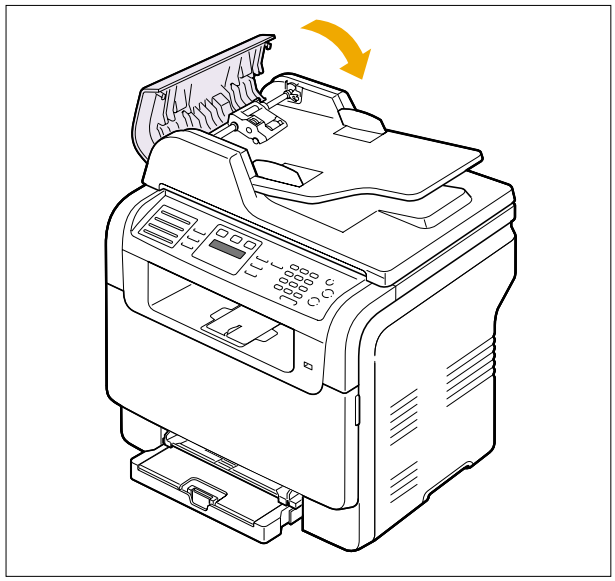


1 ADF cover

3. Pull the jammed paper gently out of the ADF.



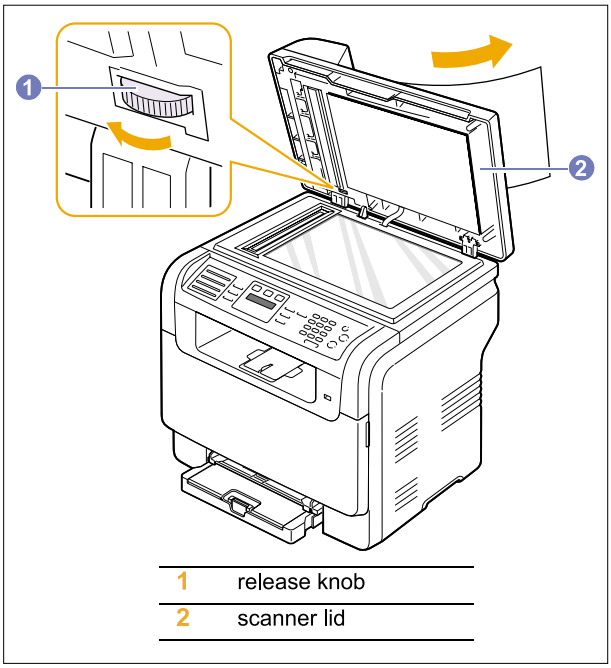
4. Close the ADF cover. Then load the removed pages, if any, back into the ADF.



6.3.1.1 Exit misfeed

1. Open the scanner lid.

2. Turn the release knob to the direction as shown to remove the misfed paper from the document output tray.



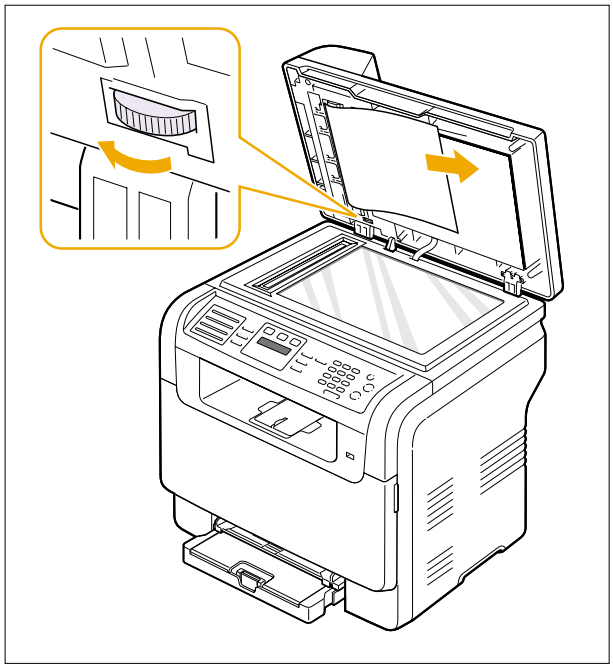
1	release knob
2	scanner lid

3. Close the scanner lid. Then load the removed pages back into the ADF.

6.3.1.2 Roller misfeed

1. Open the scanner lid.

2. Seize the misfed paper, and remove the paper from the feed area by carefully pulling it to the right using both hands.



3. Close the scanner lid. Then load the removed pages back into the ADF.

6.3.2 Clearing paper jams

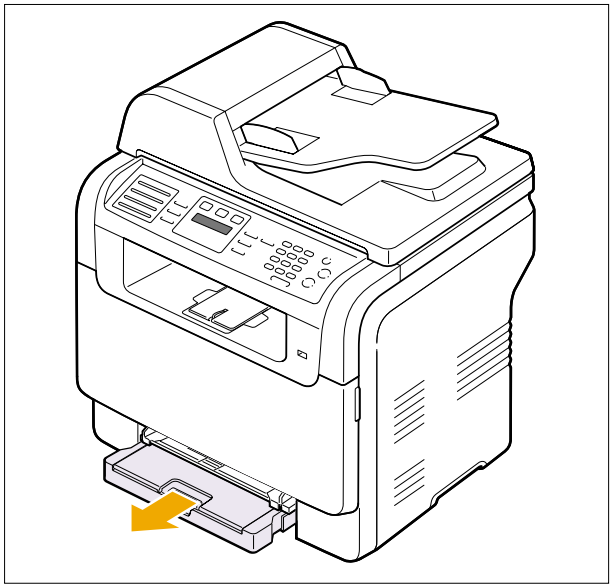
When a paper jam occurs, Paper Jam appears on the display. Refer to the table below to locate and clear the paper jam.

Message	Location of jam
Paper Jam 0 **Open/Close Door**	In the paper feed area (tray 1, optional tray 2, or mamual tray)
Paper Jam 1 **Open/Close Door**	In the paper exit area

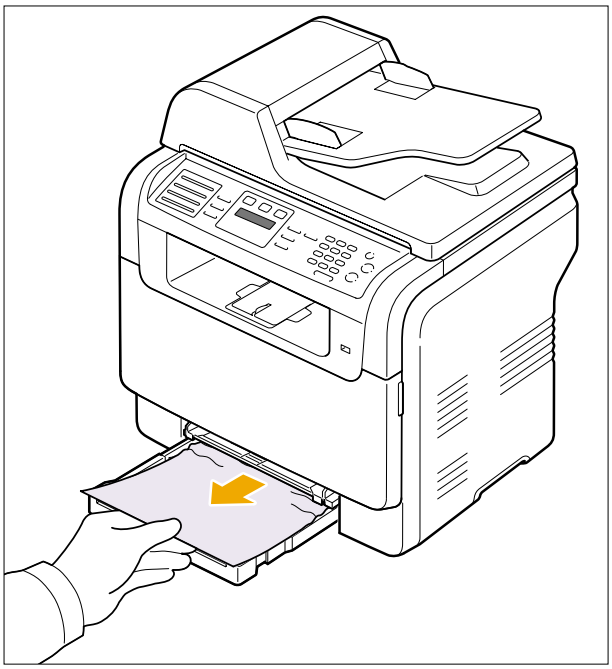
6.3.2.1 In the tray 1

1. Open and close the front cover. The jammed paper is automatically ejected from the machine.
   If the paper does not exit, go to the next step.

2. Pull the tray 1 open.



3. Remove the jammed paper by gently pulling it straight out.

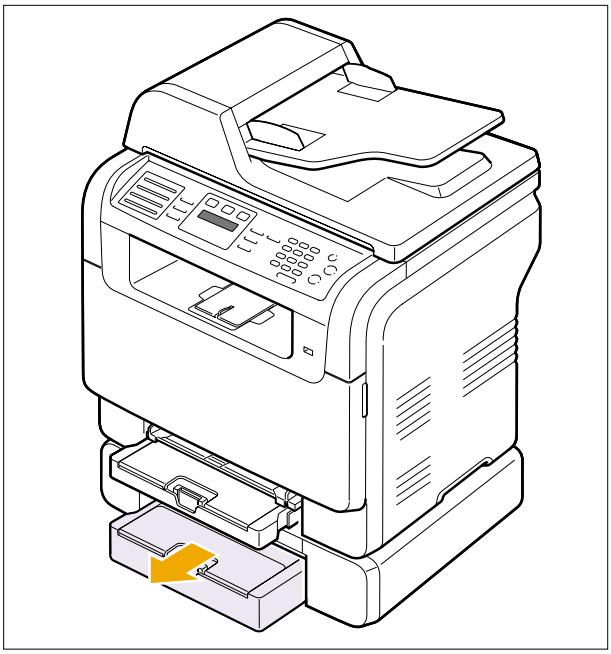


   If the paper does not move when you pull, or if you do not see the paper in this area, check the paper exit area.

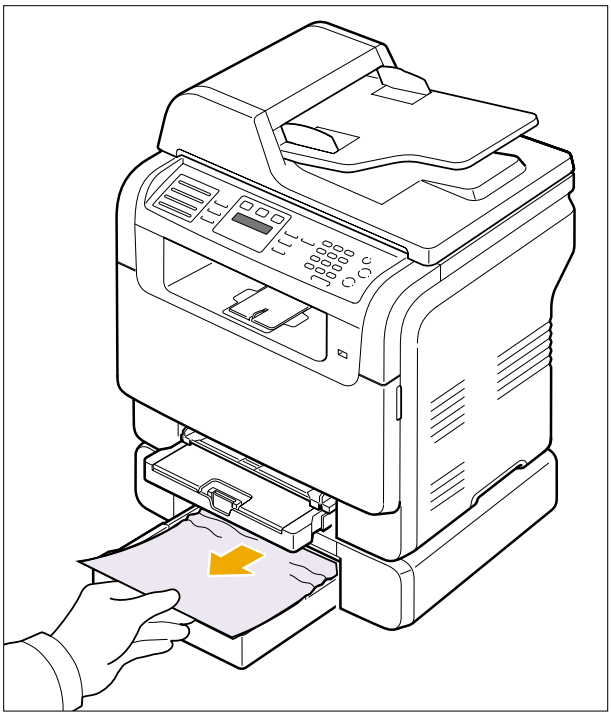
4. Insert the tray 1 into the machine until it snaps into place. Printing automatically resumes.

6.3.2.2 In the optional tray 2

1. Pull the optional tray 2 open.

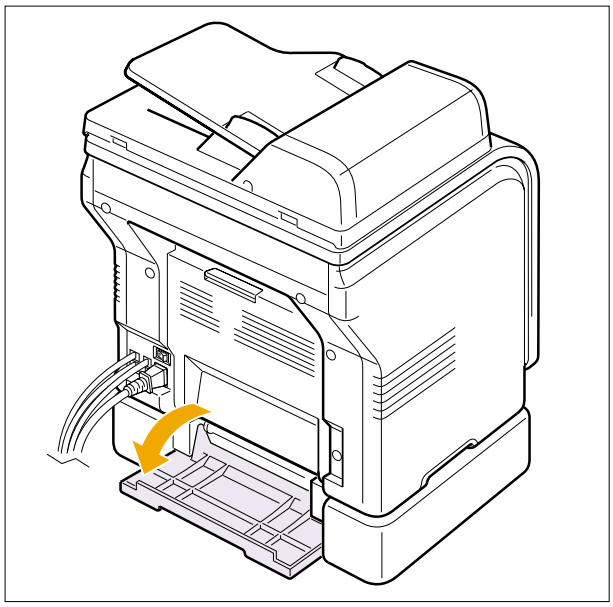


2. Remove the jammed paper from the machine.

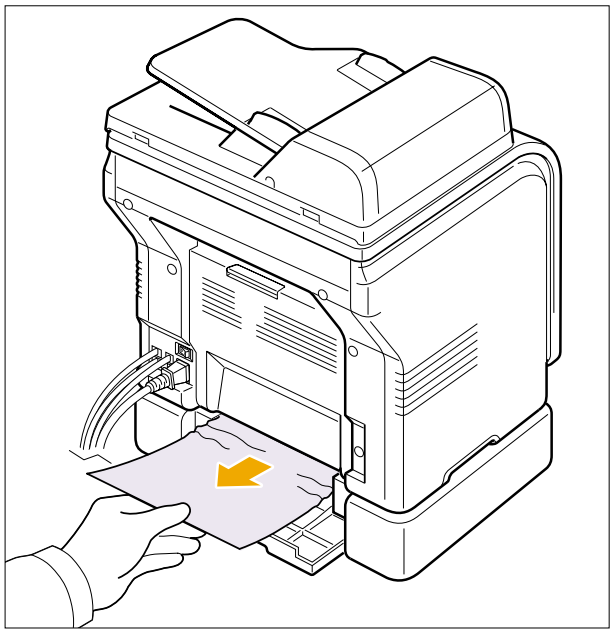


If the paper does not move when you pull, or if you do not see the paper in this area, go to the next step.

3. Open the jam cover in the optional tray 2.



4. Pull the jammed paper out in the direction shown.

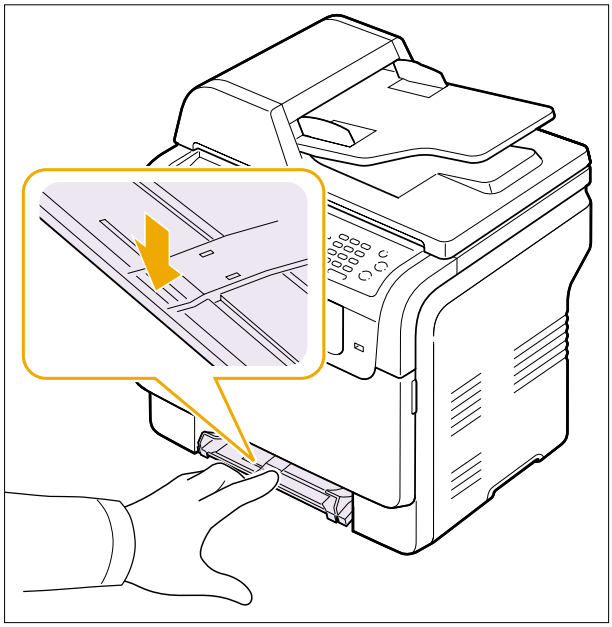


5. Close the jam cover. Printing automatically resumes.

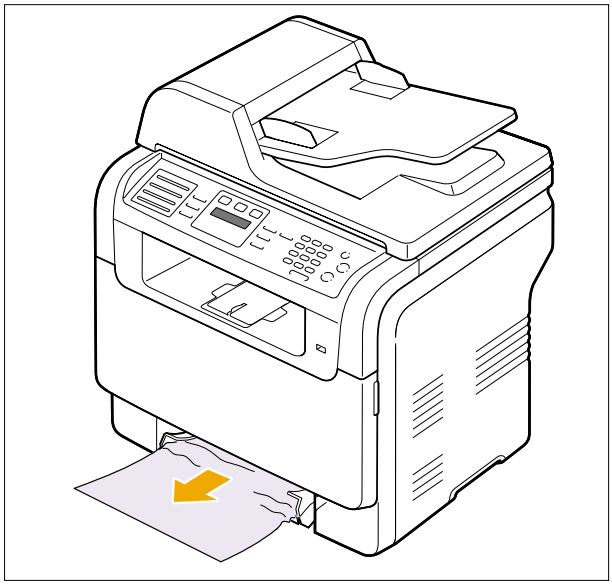
6.3.2.3 In the mamual tray

1. Pull the tray 1 out.

2. Push the manual tray tab down.



3. Pull the Jammed paper out of the manual tray.

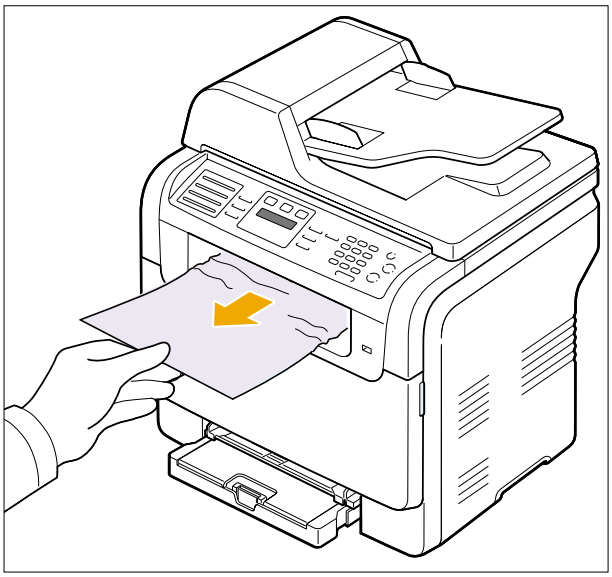


4. Insert the tray 1 into the machine until it snaps into place. Printing automatically resumes.

6.3.2.4 In the paper exit area

1. Open and close the front cover. The jammed paper is automatically ejected from the machine.

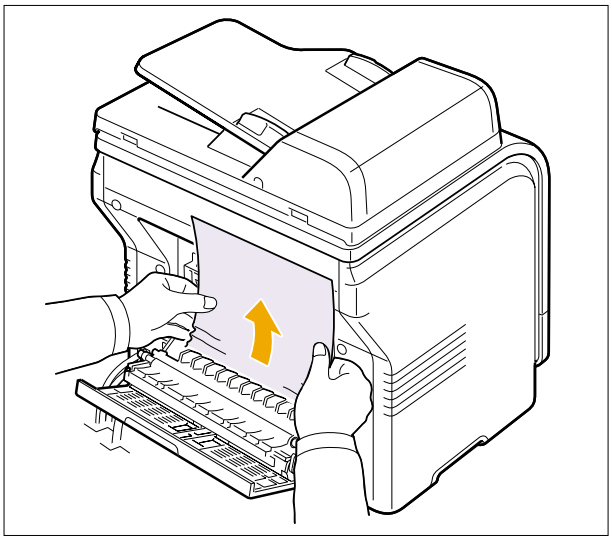
2. Gently pull the paper out of the output tray.



If you do not see the jammed paper or if there is any resistance when you pull, stop and go to the next step.

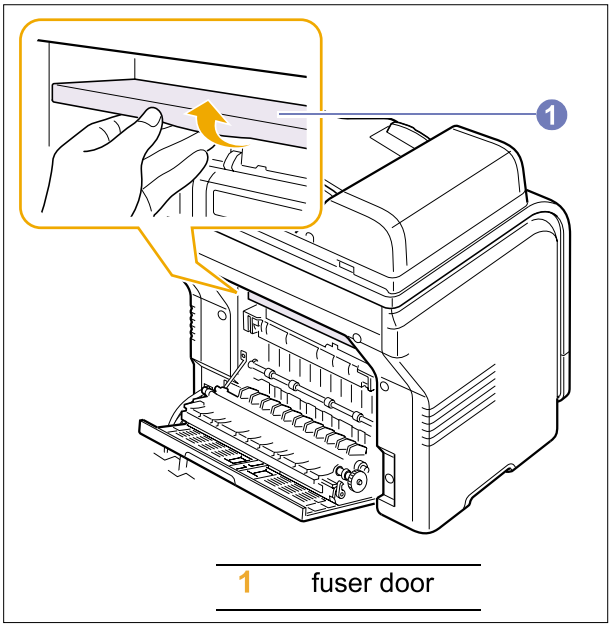
3. Open the rear cover.

4. If you see the jammed paper, pull it straight up. Skip to step 8.

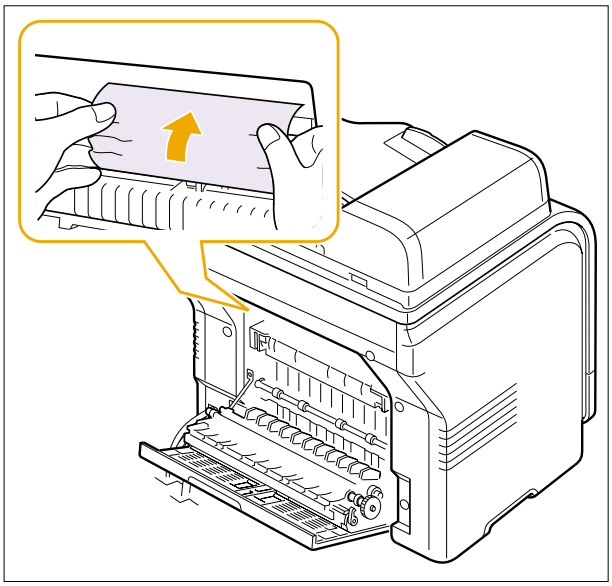


If you still do not see the paper, go to the next step.

5. Open the fuser door.



6. Locate the jammed paper and pull it out.



6.4 System setup

6.4.1 Menu overview

The control panel provides access to various menus to set up the machine or use the machine's functions. These menus can be accessed by pressing Menu. Refer to the following diagram. Menus available in Fax, Copy, or Scan mode vary.

6.4.2 Changing the display language

To change the language that appears on the control panel, follow these steps:

1. Press Menu until System Setup appears on the bottom line of the display and press OK.
2. Press OK when Machine Setup appears.
3. Press the Scroll buttons until Language appears and press OK.
4. Press the Scroll buttons until the language you want appears and press OK.
5. Press Stop/Clear to return to Standby mode.

6.4.3 Setting the date and time

The current date and time are shown on the display when your machine is on and ready to work. For the CLX-3160FN, all of your faxes will have the date and time printed on them.

Note : *If power to the machine is cut off, you need to reset the correct time and date once the power has been restored.*

1. Press Menu until System Setup appears on the bottom line of the display and press OK.

2. Press OK when Machine Setup appears.

3. Press the Scroll buttons until Date & Time appears and press OK.

4. Enter the correct time and date using the number keypad.

   Month = 01 to 12
   Day = 01 to 31
   Year = requires four digits
   Hour = 01 to 12 (12-hour mode)
   00 to 23 (24-hour mode)
   Minute = 00 to 59

Note : *The date format may differ from country to country*

You can also use the Scroll buttons to move the cursor under the digit you want to correct and enter a new number.

5. To select AM or PM for 12-hour format, press the * or # button or any number button.
   When the cursor is not under the AM or PM indicator, pressing the * or # button immediately moves the cursor to the indicator.
   You can change the clock mode to 24-hour format (e.g. 01:00 PM as 13:00). For details, see the next section.

6. Press OK to save the time and date.
   When you enter a wrong number, Out of Range appears and the machine does not proceed to the next step. If this happens, simply reenter the correct number.

7. Press Stop/Clear to return to Standby mode.

Changing the clock mode

You can set your machine to display the current time using either a 12-hour or 24-hour format.

1. Press Menu until System Setup appears on the bottom line of the display and press OK.
2. Press OK when Machine Setup appears.
3. Press the Scroll buttons until Clock Mode appears and press OK.
4. Press the Scroll buttons to select the other mode and press OK.
5. Press Stop/Clear to return to Standby mode.

6.4.4 Changing the default mode (CLX-3160FN only)

Your machine is preset to Fax mode. You can switch this default mode between Fax mode and Copy mode.

1. Press Menu until System Setup appears on the bottom line of the display and press OK.
2. Press OK when Machine Setup appears.
3. Press the Scroll buttons until Default Mode appears and press OK.
4. Press the Scroll buttons until the default mode you want appears and press OK.
5. Press Stop/Clear to return to Standby mode.

6.4.5 Setting sounds

You can control the following sounds:

- Key Sound: Turns the key sound on or off. With this option set to On, a tone sounds each time a key is pressed.
- Alarm Sound: Turns the alarm sound on or off. With this option set to On, an alarm tone sounds when an error occurs or fax communication ends.
- Speaker (CLX-3160FN only): Turns on or off the sounds from the telephone line through the speaker, such as a dial tone or a fax tone.
  With this option set to Comm. which means "Common," the speaker is on until the remote machine answers.

You can adjust the volume level using On Hook Dial.

- Ringer (CLX-3160FN only): Adjusts the ringer volume. For the ringer volume, you can select Off, Low, Mid, and High.

Speaker, ringer, key sound, and alarm sound

1. Press Menu until System Setup appears on the bottom line of the display and press OK.
2. Press the Scroll buttons until Sound/Volume appears and press OK.
3. Press the Scroll buttons until the sound option you want appears and press OK.
4. Press the Scroll buttons until the desired status or volume for the sound you have selected appears and press OK.
5. If necessary, repeat steps 3 through 5 to set other sounds.
6. Press Stop/Clear to return to Standby mode.

Speaker volume

1. Press On Hook Dial. A dial tone sounds from the speaker.
2. Press the Scroll buttons until you hear the volume you want.
3. Press On Hook Dial to save the change and return to Standby mode.

Note : *You can adjust the speaker volume only when the telephone line is connected.*

6.4.6 Entering characters using the number keypad

As you perform various tasks, you may need to enter names and numbers. For example, when you set up your machine, you enter your name or your company's name, and the fax number. When you store fax numbers in memory, you may also enter the corresponding names.

Entering alphanumeric characters

1. When you are prompted to enter a letter, locate the button labeled with the character you want. Press the button until the correct letter appears on the display.
   For example, to enter the letter O, press 6, labeled with MNO.
   Each time you press 6, the display shows a different letter, M, N, O, and finally 6.
   You can enter special characters, such as space, plus sign, and etc. For details, see the below section.

2. To enter additional letters, repeat step 1.
   If the next letter is printed on the same button, move the cursor by pressing the right Scroll button and then press the button labeled with the letter you want. The cursor will move to the right and the next letter will appear on the display.
   You can enter a space by pressing 1 twice.

3. When you have finished entering letters, press OK.

Keypad letters and numbers

Key	Assigned numbers, letters, or characters
1	1 Space
2	A B C 2
3	D E F 3
4	G H I 4
5	J K L 5
6	M N O 6
7	P Q R S 7
8	T U V 8
9	W X Y Z 9
0	+ - , . ‘ / * # & @ 0

Correcting numbers or names

If you make a mistake while entering a number or name, press the left Scroll button to delete the last digit or character. Then enter the correct number or character.

Inserting a pause

With some telephone systems, you must dial an access code (9, for example) and listen for a second dial tone. In such cases, you must insert a pause in the telephone number. You can insert a pause while you are setting up speed buttons or speed dial numbers.

To insert a pause, press Redial/Pause at the appropriate place while entering the telephone number.
A - appears on the display at the corresponding location.

6.4.7 Using the save modes

Power Save mode

Power Save mode allows your machine to reduce power consumption when it is not in actual use. You can turn this mode on and select a length of time for which the machine waits after a job is printed before it switches to a reduced power state.

1. Press Menu until System Setup appears on the bottom line of the display and press OK.
2. Press OK when Machine Setup appears.
3. Press the Scroll buttons until Power Save appears and press OK.
4. Press the Scroll buttons until On appears and press OK.
5. Press the Scroll buttons until the time setting you want appears and press OK.
6. Press Stop/Clear to return to Standby mode.

Scan Power Save mode

Scan Power Save mode allows you to save power by turning off the scan lamp. The scan lamp under the scanner glass automatically turns off when it is not in actual use to reduce power consumption and extend the life of the lamp. The lamp automatically wakes up after some warm-up time when you start scanning.

You can set the length of time for which the scan lamp waits after a scan job is completed before it switches to the power save mode.

1. Press Menu until System Setup appears on the bottom line of the display and press OK.
2. Press OK when Machine Setup appears.
3. Press the Scroll buttons until Scan PWR Save appears and press OK.
4. Press the Scroll buttons until the time setting you want appears and press OK.
5. Press Stop/Clear to return to Standby mode.

6.4.8 Setting print job timeout

You can set the amount of time a single print job is active before it must print.

The machine handles incoming data as a single job if it comes in within the specified time. When an error occurs while processing data from the computer and the data flow stops, the machine waits the specified time and then cancels printing if data flow does not resume.

1. Press Menu until System Setup appears on the bottom line of the display and press OK.
2. Press OK when Machine Setup appears.
3. Press the Scroll buttons until Job Timeout appears and press OK.
4. Press the Scroll buttons until the time setting you want appears and press OK.
5. Press Stop/Clear to return to Standby mode.

6.5 Network setup

This chapter gives you step-by-step instructions for setting up your machine for network connections.

This chapter includes:
- Introduction
- Supported operating systems
- Configuring TCP/IP
- Setting Ethernet speed
- Restoring the network configuration
- Printing a network configuration page

6.5.1 Introduction

Once you have connected your machine to a network with an RJ-45 Ethernet cable, you can share the machine with other network users.

You need to set up the network protocols on the machine to use it as your network printer. Protocols can be set up by the following two methods:

Via network administration programs

You can configure your machine's print server settings and manage the machine via the following programs that came with your machine:

- SyncThru™ Web Admin Service: A web-based printer management solution for network administrators. SyncThru™ Web Admin Service provides you with an efficient way of managing network devices and lets you remotely monitor and troubleshoot network printers from any site with corporate intranet access.

- SyncThru™ Web Service: A web server embedded to your network print server, which allows you to:
  - Configure the network parameters necessary for the machine to connect to various network environments.
  - Customize printer, copy, and fax settings.

- SetIP: A utility program allowing you to select a network interface and manually configure the addresses for use with the TCP/IP protocol.

For further details, refer to the user's guide on the network utilities CD that came with your machine.

Via the control panel

You can set up the following basic network parameters through the machine's control panel:
- Configure TCP/IP
- Configure EtherTalk

6.5.2 Supported operating systems

The following table shows the network environments supported by the machine:

Item	Requirements
Network interface	• Ethernet 10/100 Base-TX • External Wireless 802.11b
Network operating system	• Windows 98/Me/2000/XP • Various Linux OS • Macintosh OS 10.3 ~ 10.4
Network protocols	• TCP/IP on Windows • IPP, SNMP
Dynamic addressing server	• DHCP, BOOTP

- TCP/IP: Transmission Control Protocol/Internet Protocol
- IPP: Internet Printing Protocol
- SNMP: Simple Network Management Protocol
- DHCP: Dynamic Host Configuration Protocol
- BOOTP: Bootstrap Protocol

6.5.3 Configuring TCP/IP

Your machine can be set up with a variety of TCP/IP network information, such as an IP address, a subnet mask, a gateway, and DNS addresses.
There are several ways in which your machine can be assigned a TCP/IP address, depending on your network.

- Static addressing: A TCP/IP address is assigned manually by the system administrator.
- Dynamic addressing via BOOTP/DHCP (default): A TCP/IP address is assigned automatically by the server.

***Note** : Before configuring TCP/IP, you need to set the network protocol to TCP/IP.*

Static addressing

To enter a TCP/IP address from your machine's control panel, take the following steps:

1. Press Menu until Network appears on the bottom line of the display and press OK.
2. Press OK when TCP/IP appears.
3. Press the Scroll buttons until Static appears and press OK.
4. Press OK when IP Address appears.
5. Enter a byte between 0 and 255 using the number keypad and press the Scroll buttons to move between bytes.
   Repeat this to complete the address from the 1st byte to the 4th byte.
6. When you have finished, press OK.
7. Repeat steps 5 and 6 to configure the other TCP/IP parameters:
   subnet mask and gateway address.
8. Press the Scroll buttons until Primary DNS appears and press OK.

9. Enter each byte of the address and press OK.
10. Press the Scroll buttons until Secondary DNS appears and press OK.
11. Enter each byte of the address and press OK.
12. Press Stop/Clear to return to Standby mode.

Dynamic addressing (BOOTP/DHCP)

To have a TCP/IP address assigned automatically by the server, take the following steps:

1. Press Menu until Network appears on the bottom line of the display.
2. Press OK when TCP/IP appears.
3. Press the Scroll buttons until DHCP or BOOTP appears and press OK.
4. Press Stop/Clear to return to Standby mode.

6.5.4 Setting Ethernet speed

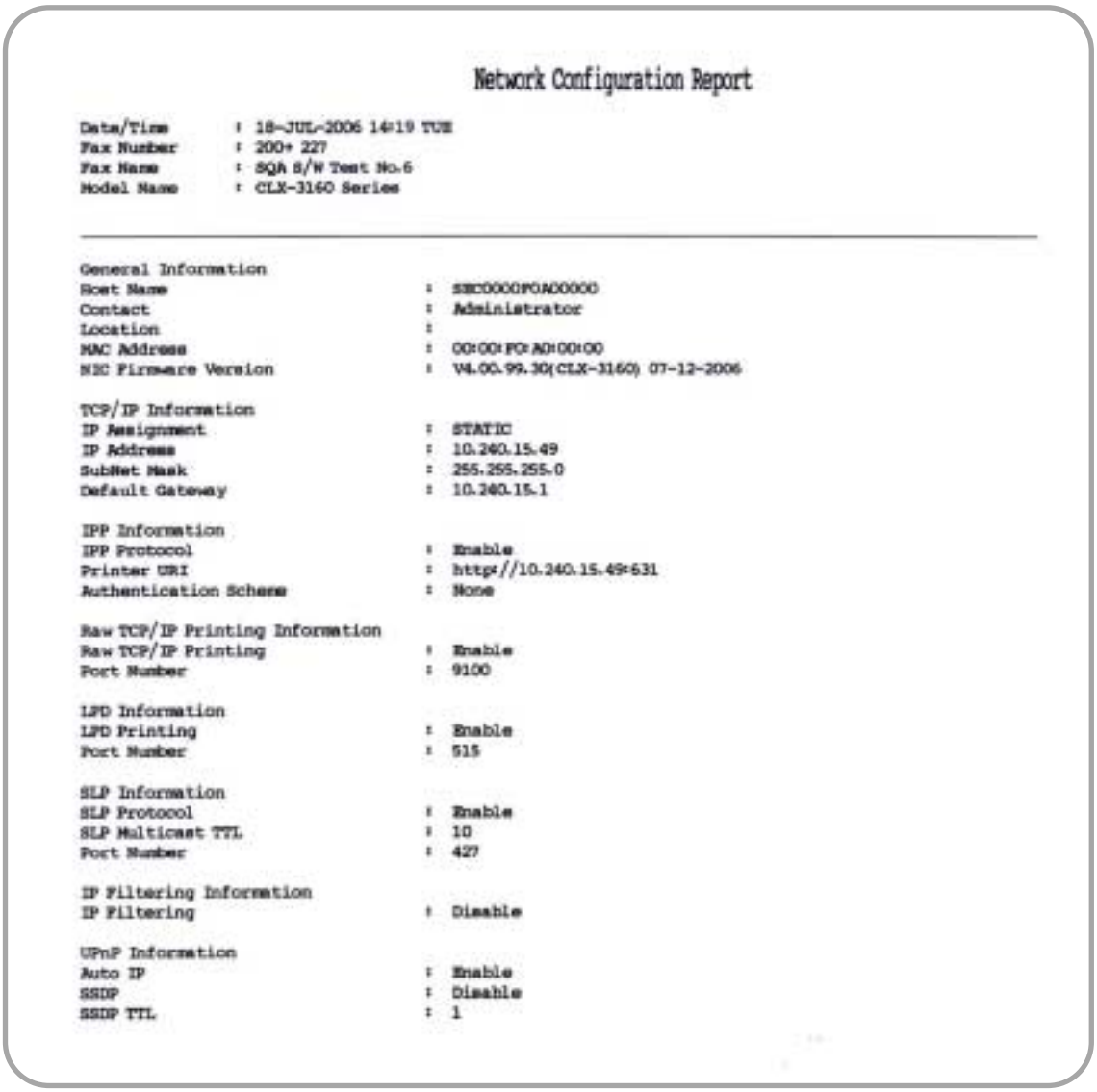
You can select the communication speed for Ethernet connections.

1. Press Menu until Network appears on the bottom line of the display and press OK.
2. Press the Scroll buttons until Ethernet Speed appears and press OK.
3. Press the Scroll buttons until the speed you want appears and press OK.
4. Press Stop/Clear to return to Standby mode.

6.5.5 Restoring the network configuration

You can return the network configuration to its default settings.

1. Press Menu until Network appears on the bottom line of the display and press OK.
2. Press the Scroll buttons until Clear Setting appears and press OK.
3. Press OK when Yes appears to restore the network configuration.
4. Power the machine off and back on.



Network Configuration Report

Date/Time : 18-JUL-2006 14:19 TUE
Fax Number : 200+ 227
Fax Name : SQA S/W Test No.6
Model Name : CLX-3160 Series

General Information
Host Name : SECOOOOFOAOOOOO
Contact : Administrator
Location :
MAC Address : 00:00:F0:A0:00:00
NIC Firmware Version : V4.00.99.30(CLX-3160) 07-12-2006

TCP/IP Information
IP Assignment : STATIC
IP Address : 10.240.15.49
SubNet Mask : 255.255.255.0
Default Gateway : 10.240.15.1

IPP Information
IPP Protocol : Enable
Printer URI : http://10.240.15.49:631
Authentication Scheme : None

Raw TCP/IP Printing Information
Raw TCP/IP Printing : Enable
Port Number : 9100

LPD Information
LPD Printing : Enable
Port Number : 515

SLP Information
SLP Protocol : Enable
SLP Multicast TTL : 10
Port Number : 427

IP Filtering Information
IP Filtering : Disable

UPnP Information
Auto IP : Enable
SSDP : Disable
SSDP TTL : 1

6.5.6 Printing a network configuration page

The Network Configuration page shows how the network interface card on your machine is configured.

1. Press Menu until Network appears on the bottom line of the display and press OK.
2. Press the Scroll buttons until Network Info appears and press OK.
3. Press OK when Yes appears.
   The Network Configuration page prints out.

6.6 Sample Pattern

This product provides several printable test patterns for maintenance purposes. These patterns can be used to aid the diagnosis of print quality problems.

6.6.1 Printing a report

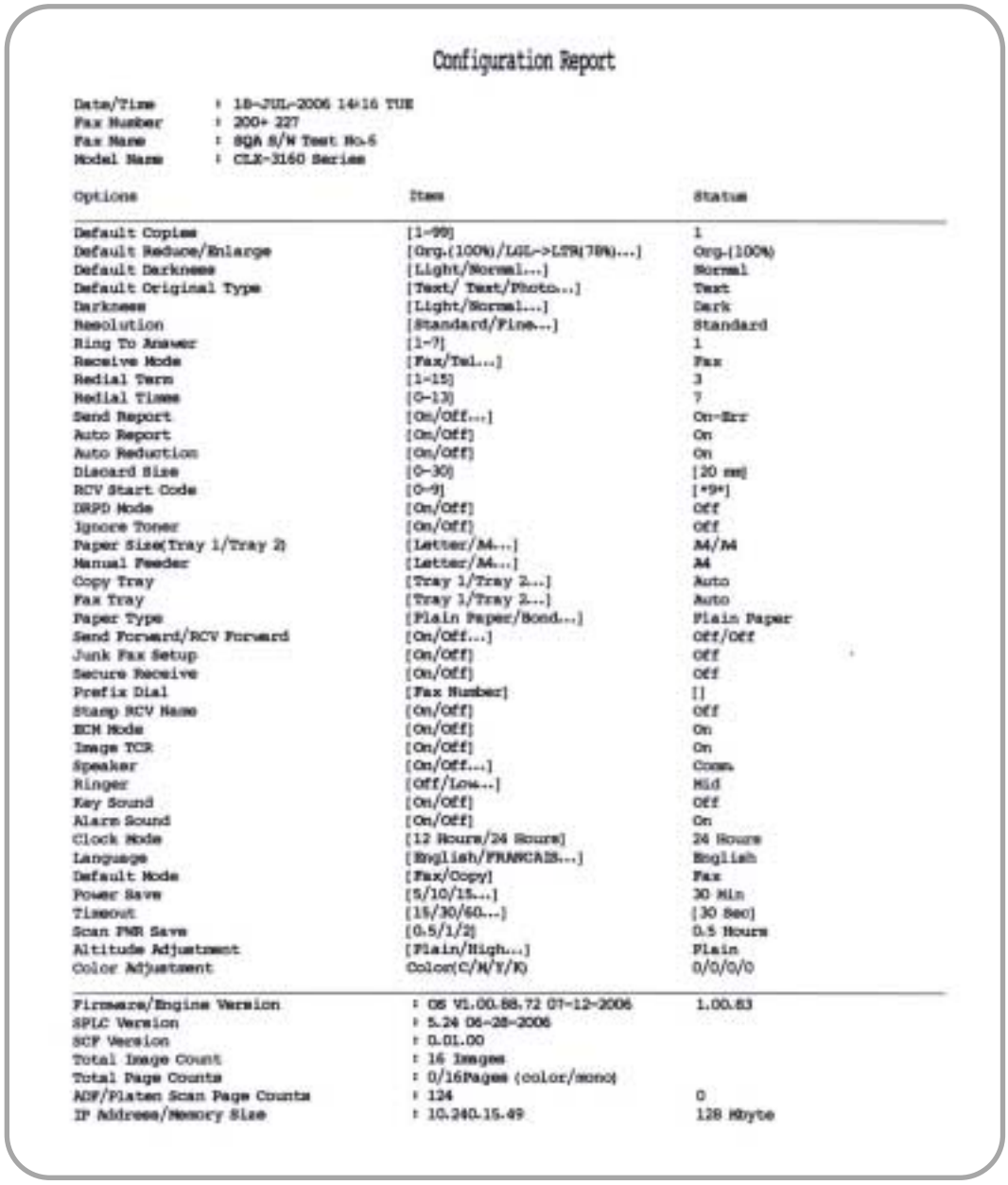
[Printing a Document in Windows]

1. Click the Windows Start menu.
2. For Windows 98/Me/NT 4.0/2000, select Settings and then Printers.
   For Windows XP, select Printers and Faxes.
3. Select the Samsung MFP CLX-3160 Series printer.
4. Click the right mouse button on the printer icon and:
   - For Windows 98/Me, select Properties.
   - For Windows 2000/XP, select Printing Preferences.
   - For Windows NT 4.0, select Document Default.
5. Change the settings on each tab and click OK.
6. Now “PRINTING”

6.6.2 Printing a Configuration Page

You can print a configuration page from the printer's control panel. Use the configuration page to view the current settings, to help troubleshoot problems.

To print a configuration page: In ready mode, press and hold the Stop button on the control panel for 5 seconds.
A configuration page prints out.



Configuration Report

Date/Time : 18-JUL-2006 14:16 TUE
Fax Number : 200+ 227
Fax Name : SQA S/W Test No.6
Model Name : CLX-3160 Series

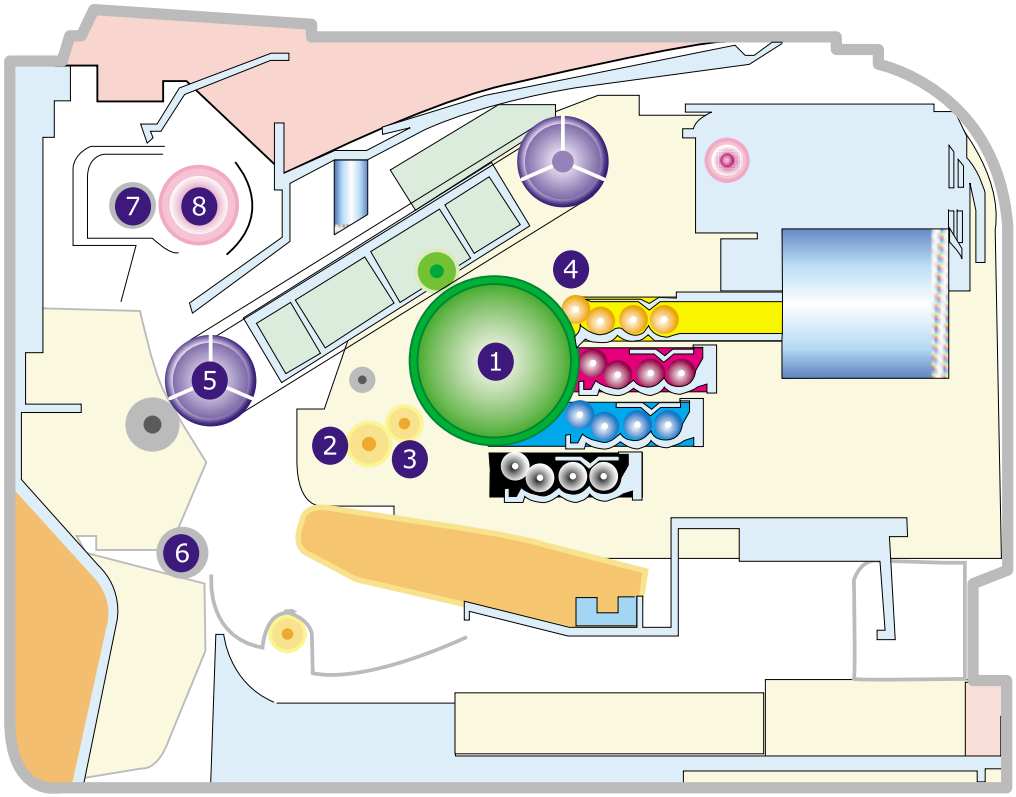
Options	Item	Status
Default Copies	[1-99]	1
Default Reduce/Enlarge	[Org.(100%)/LGL->LTR(78%)...]	Org.(100%)
Default Darkness	[Light/Normal...]	Normal
Default Original Type	[Text/ Text/Photo...]	Text
Darkness	[Light/Normal...]	Dark
Resolution	[Standard/Fine...]	Standard
Ring To Answer	[1-7]	1
Receive Mode	[Fax/Tel...]	Fax
Redial Term	[1-15]	3
Redial Times	[0-13]	7
Send Report	[On/Off...]	On-Err
Auto Report	[On/Off]	On
Auto Reduction	[On/Off]	On
Discard Size	[0-30]	[20 mm]
RCV Start Code	[0-9]	[*9*]
DRPD Mode	[On/Off]	Off
Ignore Toner	[On/Off]	Off
Paper Size(Tray 1/Tray 2)	[Letter/A4...]	A4/A4
Manual Feeder	[Letter/A4...]	A4
Copy Tray	[Tray 1/Tray 2...]	Auto
Fax Tray	[Tray 1/Tray 2...]	Auto
Paper Type	[Plain Paper/Bond...]	Plain Paper
Send Forward/RCV Forward	[On/Off...]	Off/Off
Junk Fax Setup	[On/Off]	Off
Secure Receive	[On/Off]	Off
Prefix Dial	[Fax Number]	[]
Stamp RCV Name	[On/Off]	Off
ECM Mode	[On/Off]	On
Image TCR	[On/Off]	On
Speaker	[On/Off...]	Comm.
Ringer	[Off/Low...]	Mid
Key Sound	[On/Off]	Off
Alarm Sound	[On/Off]	On
Clock Mode	[12 Hours/24 Hours]	24 Hours
Language	[English/FRANCAIS...]	English
Default Mode	[Fax/Copy]	Fax
Power Save	[5/10/15...]	30 Min
Timeout	[15/30/60...]	[30 Sec]
Scan PWR Save	[0.5/1/2]	0.5 Hours
Altitude Adjustment	[Plain/High...]	Plain
Color Adjustment	Color(C/M/Y/K)	0/0/0/0

Firmware/Engine Version	: OS V1.00.88.72 07-12-2006	1.00.83
SPLC Version	: 5.24 06-28-2006	
SCF Version	: 0.01.00	
Total Image Count	: 16 Images	
Total Page Counts	: 0/16Pages (color/mono)	
ADF/Platen Scan Page Counts	: 124	0
IP Address/Memory Size	: 10.240.15.49	128 MByte

6.7 Periodic Defective Image

If an image defects appears at regular intervals on the printed-paper, it is due to a faulty or damaged roller. Refer to the table below and check the condition of the appropriate roller.

No	Roller	Period	Phenomenon
1	OPC Drum	188.5 mm	White and Black Spots
2	Charge Roller	37.7mm	Black Spot and line and Periodic Band
3	Supply Roller	47.5mm	Periodic Band by little difference of density
4	Developing Roller	26.0mm	White Spot, Horizontal black band
5	1st Transfer Roller	32.7mm	Ghost, Damaged Image by abnormal tranfer
6	2nd Transfer Roller	57.5mm	Ghost, Damaged Image by abnormal tranfer
7	Heat Roller	86.6mm	Black Spots or Vertical Black Band
8	Pressure Roller	86.6mm	Background



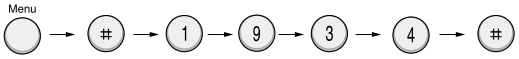
6.8 Tech Mode

6.8.1 How to Enter Tech Mode

In service (tech) mode, the technician can check the machine and perform various test to isolate the cause of a malfunction.

While in Tech mode, the machine still performs all normal operations.

To enter the Tech mode

To enter the Tech mode, press 

in sequence, and the LCD briefly displays **'TECH',** the machine has entered service (tech) mode.

6.8.2 Setting-up System in Tech Mode

Tech Mode	1	Data Setup	Send Level	-9~-15	-12	
			DTMF Level	[Hi]=xx,[Lo]=xx		
			Pause Time	1~9		Depending on the country selected. For details refer the config table. Default value will be based on the country selected.
◀ Data Setup ▶			Dial Mode	Tone,Pulse	Tone	
			Modem Speed	33.6, 28.8, 14.4, 12.0, 9.6, 4.8	33.6	
			Error Rate	5%, 10%	10%	
			RDS	Criteria, Value		
				Service Number		
				RDS Password		
			Clear All Mem.			
			Clear Counts	Total Page CNT	Enter Password	
				FLT Scan CNT		
				ADF Scan CNT		
				Image Count		
				Transfer Belt		
				Fuser		
				Transfer Roller		
				Tray1 Roller		
				Tray2 Roller		
			Color Regi	Cyan		
				Magenta		
				Yellow		
				Black		
	2	Machine Test	Switch Test	PRESS ANY KEY TO START LCD TEST		
			Modem Test			
			Dram Test			
			Rom Test			
			Shading Test	Shading & Print	Shading & Print Print Data	
	3	Report	All Report			
			Protocol			
			Configuration			
			Error Info			
			Usage Page			
			Component Check			

6.8.3 Data Setup

SEND LEVEL

You can set the level of the transmission signal. Typically, the Tx level should be under -12 dBm.

Caution : *The Send Fax Level is set at the best condition in the shipment from factory. Never change settings arbitrarily.*

DIAL MODE

This function can choose dial method.
*Default : Dial(Dial/Pulse)

MODEM SPEED

You can set the maximum modem speed.
Communication is done with modem speed automatically set at lower speed when communicating with a slower speed modem since communication is done on the standard of the side where modem speed is low for transmission/reception. It is best set 33.6Kbps as default setting.

ERROR RATE

When the error rate is about exceed the set value, the Baud rate automatically adjusts to 2400 bps.
This ensures that the error rate remains below the set value.
You can select the rate between 5% and 10%.

CLEAR ALL MEMORY

The function resets the system to factory default settings.
This function is used to reset the system to the initial value when the product is functioning abnormally . All the values are returned to the default values, and all the information, which was set by the user, will be erased.

< Method >

1. Select the [MEMORY CLEAR] at the TECH MODE.
2. Push the ENTER button.
3. Select you country. (There are four country groups. Refer to the table below.)
4. Push the ENTER button then it will clear all memory.

NOTICE : *Always perform a memory clear after replacing the main board. Otherwise, the system may not operate properly.*

Country Group	USA/Canada	UK	Russia	Southafrica
Country	USA/Canada Mexico Brazil	UK Germany France Italy Spain Austria Netherlands Belgium Portugal Sweden Norway Denmark Finland Switzerland Greece Ireland Turkey	Russia India Oman Poland Bangladesh Kuwait Moroco Algeria Pakistan UAE Bahrain Srilanka Saudi Arabia Chile Peru Argentina Hungary Romania Bulgaria Czech	South Africa

Flash Upgrade

The Firmware Upgrade function and has two methods, Local and Remote.

1)Local Machine Upgrade

• RCP(Remote Control Panel) mode

This method is for Parallel Port.or USB Port Connect to PC and activate RCP(Remote Control Panel) to upgrade the Firmware.

< Method >

How to Update Firmware using RCP

1. Connect PC and Printer with Parallel Cable or USB Cable.
2. Execute RCP and select Firmware Update.
3. Search Firmware file to update with Browse Icon.
4. Click Update icon, firmware file is transmitted to Printer automatically and printer is initialized when it finished.
5. Click Refresh icon and check what is updated.

• DOS Command mode

This method is just for Parallel Port. Connect to PC with Parallel cable and enter DOS Command to upgrade the Firmware

< Method >

1. The first of all, need the files : down.bat, down_com.bin, fprt.exe, and Rom File:
   file name for upgrade.Save the files in the same folder.
2. In the DOS, input as below and push the enter key. Then, it will be automatically upgraded.
3. There are two commands for the conditions of product.

* When the product is in idle condition down "rom file"
* When the product is in Ready condition (TECH MODE → DATA SETUP → FLASH UPGRADE → LOCAL) copy/b "rom file" lpt1

4. Do not turn off the power while upgrading process.

2) Remote Upgrade

This is a function that a fax with the latest firmware sends files to a fax in long distance through telephone line.

< Method >

1. Before remote upgrade, the latest firmware should be loaded into the machine.
   (TECH MODE →DATA SETUP→FLASH UPGRADE→REMOTE)
2. Input the fax number, which needs to be upgraded. (Several faxes can be upgraded at the same time. In this case, enter the each fax number.)
3. After push the enter button, send the firmware file by calling to the appointed number. (Around 10~15 minutes needs to send the file.)

< Caution >

1. sending and receiving fax must be the same model.
2. A sending fax must be set up as ECM mode, and a receiving memory must be set up as 100%. If not, the function operates abnormally

S/W of Maintenance

1. Clearing the Memory

· You can selectively clear information stored in your machine's memory.
1) Press Menu on the control panel until "Maintenance" appears on the top line of the display.
2) Press the scroll button (left-key or right-key) until you see "Clear Memory" on the bottom line and press Enter
- The first available menu item, "Clear All Mem." displays on the bottom line.
- See next page - There are some item to display on the LCD.
3) Press the scroll button (left-key or right-key) until you see the item you want to clear.
4) Press Enter. The selected memory is cleared and the display asks you to continue clearing the next item.
5) To clear another item, press Enter and repeat steps 3 and 4
- To return to Standby mode, press Stop/Clear.
- As below item you can selectively clear information stored in your machine's memory.

· Clear All Mem.:
- Clears all of the data stored in the memory and resets all of your settings to the factory default.
· Paper Setting:
- Restores all of the Paper Setting options to the factory default.
· Copy Setup:
- Restores all of the Copy Setup options to the factory default.
· Fax Setup:
- Restores all of the Fax Setup options to the factory default.
· Fax Feature:
- Cancels all of the scheduled fax jobs in the machine's memory.
- As below item you can selectively clear information stored in your machine's memory.
· Advanced Fax:
- Restores all of the Advanced Fax setting options to the factory default.
· Sound/Volume:
- Resets the sound and volume settings to the factory default.
· Machine Setup:
- Resets all of the system settings, such as the machine ID, date and time, display language and save modes, to the factory default.
· Sent Report:
- Clears all of records of your faxes sent.
· RCV Report:
- Clears all of records of your faxes received.
· Phone Book:
- Clears the one-touch, speed and group dial numbers stored in the memory.

2. Adjust shading

· When the scan unit becomes dirty, it can alter the shading value.
· If your copy has black lines or is blurred, adjust the shading setting.

1) Load a sheet of white paper into the ADF.
2) Make machine Tech mode.
3) Press Menu on the control panel and scroll until "Machine Test" displays.
4) Scroll to "Shading Test" and Enter.
5) Select "Shading&Print" appears on the bottom line and press Enter.
6) Your machine picks up the paper and adjusts the shading value.
7) After adjusting, shading value will be printed with graphic image.

3. Flash Upgrade

· The Firmware Upgrade function and has two methods, Local and Remote.

3.1 Local Machine

• RCP(Remote Control Panel) mode

This method is for Parallel Port.or USB Port Connect to PC and activate RCP(Remote Control Panel) to upgrade the Firmware.

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How to Update Firmware using RCP

1. Connect PC and Printer with Parallel Cable or USB Cable.
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2. In the DOS, input as below and push the enter key. Then, it will be automatically upgraded.
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* When the product is in Ready condition (TECH MODE →DATA SETUP→FLASH UPGRADE→LOCAL) copy/b "rom file " lpt1

4. Do not turn off the power while upgrading process.

3.2 Remote Upgrade

This is a function that a fax with the latest firmware sends files to a fax in long distance through telephone line.

< Method >

1. Before remote upgrade, the latest firmware should be loaded into the machine.(TECH MODE →DATA SETUP→ FLASH UPGRADE→REMOTE)
2. Input the fax number, which needs to be upgraded. (Several faxes can be upgraded at the same time. In this case, enter the each fax number.)
3. After push the enter button, send the firmware file by calling to the appointed number. (Around 10~15 minutes needs to send the file.)

< Caution >

1. sending and receiving fax must be the same model.
2. A sending fax must be set up as ECM mode, and a receiving memory must be set up as 100%. If not, the function operates abnormally

4. Remote Diagnostic System(RDS)

- RDS and FT-EGT Automatic Ordering System, will enhance the quality and the speed of after sales service and monitor the performance of the MFP at the customer site.
- MFP Should be connected by MFP Server.

4.1 Required components of RDS
RDS for MFP system consists of the following three components that communicate with each other
1. Main RDS Server connected to FAX-MODEM.
2. RDS Client Application.
3. RDS on MFP.

4.2 Enable of RDS on MFP
This value is in Tech Mode.
The factory default for Consumables Status Update / Error Proactive value is Disabled.

< Method >
1. MFP Should be connected by RDS Server.
2. Service numbers should have the proper values.
   : TECH MODE → DATA SETUP → NOTIFY TONER → 2.RDS → Service Number.
3. Machine Serial No. should have the proper values.
   : TECH MODE → DATA SETUP → NOTIFY TONER → 1.Toner → Serial No.
4. Criter value input is optional, default is set to 1000-page.
   : TECH MODE → DATA SETUP → NOTIFY TONER → 2.RDS → Criter.Value.
5. Remote Test should be On
   : Maintenance → Remote Test → On
6. Change the password : if you forgot the "Notify Toner" password, enter the new password.
   : TECH MODE → DATA SETUP → NOTIFY TONER → RDS → RDS Password.
7. If you are to enable the RDS system, "Notify Toner" option should be [Off].

4.3 Call setup & Release
In order to perform any RDS activity on a Customer MFP, the SVC will have to setup a call to it.
- On successful completion of call setup, one or more RDS functions can be executed before call release is manually initiated.
- When connecting to a device, RDS will query the MFP for serial no. If Serial No. is a zero-length string / invalid string, user will be prompted to enter a valid serial no. for the device. If the user chooses not to enter the serial number at that point, he can enter/edit it later also; Serial number will be configurable just like any other MFP parameter
- Following successful connection, following details of the MFP will be displayed :
  Tel. No, Model, Server Port (that is connected to), Status, Serial Number, Firmware Version, Engine Version, Emulation Version
- In case the established call is dropped due to an error condition, RDS Client Application will notify the user. It will then be necessary to manually request for another call setup to the desired MFP before any RDS function can be re-attempted.
- If no activity is detected on a connected call for a maximum duration of 5 minutes (300 seconds), the call will be released / disconnected from the MFP-side.

6.8.4 Machine Test

SWITCH TEST

Use this feature to test all keys on the operation control panel. The result is displayed on the LCD window each time you press a key.

MODEM TEST

Use this feature to hear various transmission signals to the telephone line from the modem and to check the modem. If no transmission signal sound is heard, it means the modem part of the main board malfunctioned.

DRAM TEST

Use this feature to test the machine's DRAM. The result appears in the LCD display.
If all memory is working normally, the LCD shows << O K >>

ROM TEST

Use this feature to test the machine'S ROM. The result and the software version appear in the LCD display.

- FLASH VER : 1.00 V
- ENGINE VER :1.00V

PATTERN TEST

Using this pattern printout, you can check if the printer mechanism is functioning properly.
It is needed in the production progress. Service person doesn't need to use it.

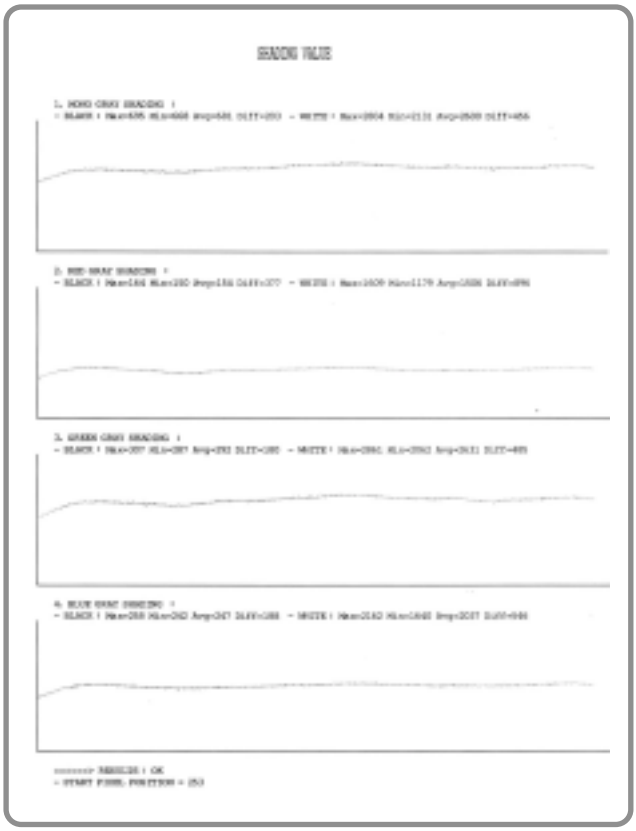
SHADING TEST

The function is to get the optimum scan quality by the specific character of the CCD(Charge Coupled Device). If the copy image quality is poor, perform this function to check the condition CCD unit.

< Method >

1. Select the [ADJUST SHADING] at the TECH MODE.
2. Push the SET UP button then an image will be scanned.
3. After the scan, CCD SHADING PROFILE will be print out.
4. If the printed image is different to the image, the CCD is defect.

NOTICE : *When you test CCD, make sure that the cover is closed.*



6.8.5 Report

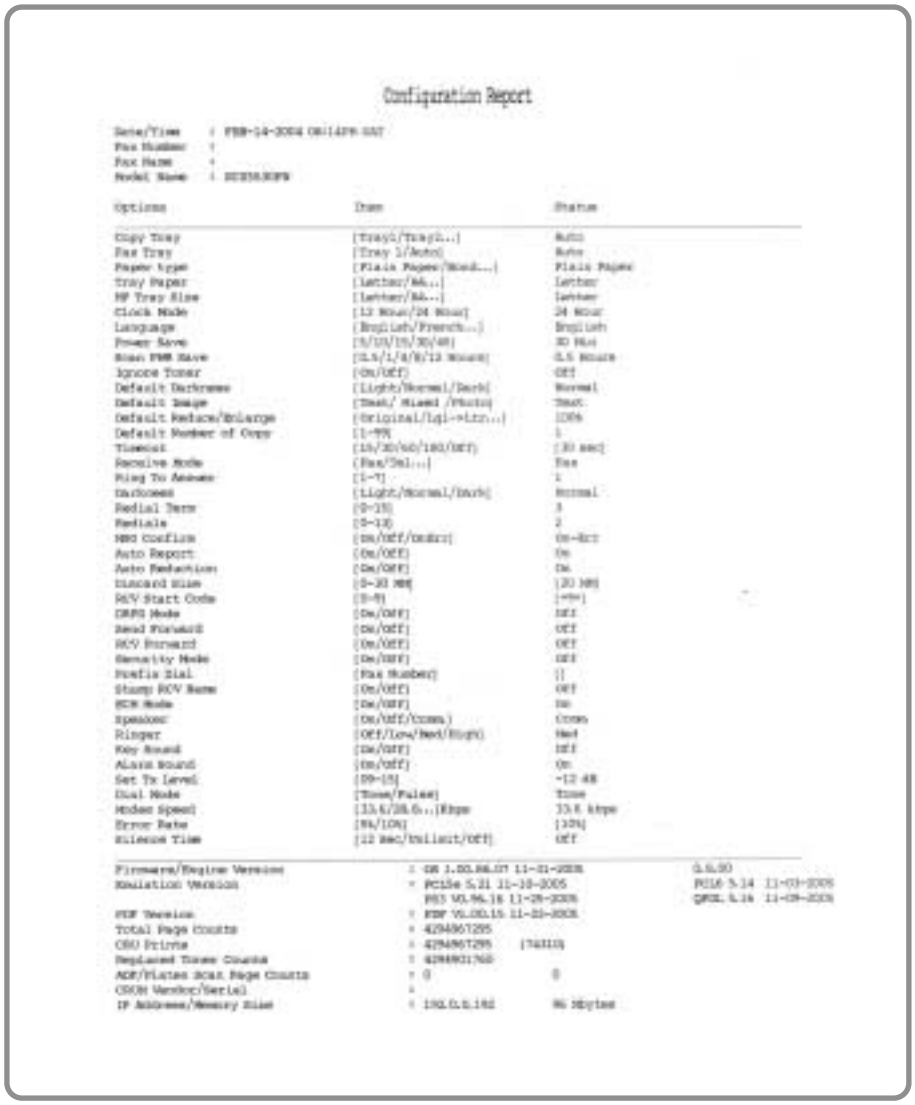
PROTOCOL LIST

This list shows the sequence of the CCITT group 3 T.30 protocol during the most recent sending or receiving operation. Use this list to check for send and receive errors. If a communication error occurs while the machine is in TECH mode, the protocol list will print automatically.

OTHER ITEM

This list provides a list of the user system data settings and tech mode settings.

Component Check



6.8.6 Detail Description

Function Name	Description	Display
01.Motor Test	The main motor keeps running after the execution key is chosen and stops when the stop key is chosen.	Main Motor On(Off)
02.Pick Up Test	automatically stops, when the execution is chosen.	Tray 1,2 Solenoid On/Off
03.Fan Test	The fan keeps running after the execution key is chosen and stops when the stop key is chosen.	Fan On(Off)
04.Manual Clutch Test	The tray2,3 clutch is on for 1sec and then it automatically stops, when the execution is chosen.On this function, the main motor runs before 2sec from the point of the clutch on in order to check the clutch state.	Tray 2,3 Clutch On/Off
11.LSU Motor	Test The laser motor keeps running after the execution key is chosen and stops when the stop key is chosen.	Laser Motor On(Off)
12.LSU Hsync Test	“Laser Leady” is displayed, When the Laser Scanning Unit is ready to print. On the other case “Laser Error”	Laser Leady On(Off)
13.LD Test	“Diode On” is displayed, when the laser diode is on. On the other case “Diode Off” is displayed.	Diode On(Off)
21.Feed Sen Test	These Functions are considered to check the present state (normal or not)of the Sensors.	"Sensor Off"to “ Sensor On ”
22.Exit Sen Test		
23.Cover Sen Test	After the cover is open, touch the sensor and confirm the message changed “Cover Open” to “ Cover Close”	"Cover Open" to "Cover Close"
24.Empty Sen Test	These Functions are considered to check the present state (normal or not)of the Sensors.	"Sensor Off"to “ Sensor On ”
25.Manual Sen Test		
31.Them ADC 180	“current value"is displayed on the upper line of the panel, and “target value"on the bottom line. Target value is limited from “191˚C” to “80˚C”	Input and output value are ADC value.(refer to the ADC table)
32.Them ADC 140		
33.Them ADC 120		
34.Them ADC 100		
41.MHV Test	These Functions are considered to check whether the control for HVPS is normal or not.	MHV On(Off)
42.Dev Bias Test		Dev Bias On(Off)
43.THV EN/NEG Test		THV EN/NEG On(Off)
44.THV ON(1300V)		THV On(Off)
45.THV ADC 1300V		ADC value displayed.
46.THV ADC 600V~3500		ADC value displayed.

6.8.7 Identify Sale Date

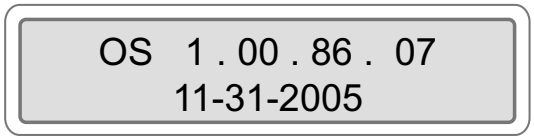
This function confirms the date that consumer bought product and used the product for the first time.
When the consumer first operate the machine, it will start a scan and page count.
The time the machine was first used is remembered.

These settings are are remembered after memory delete (Clear All Memory).

< Method >

Press MENU, #, 1, 9, 3, # in sequence.Firmware version is displayed on LCD.
Press 1(in the number keypad) : The LCD display shows "Updated date"
Press 2(in the number keypad) : The LCD display shows "Product first use date"

< Display >



6.9 Error Message

Messages in the colored cells are available only with CLX-3160FN.

Display	Meaning	Suggested solutions
[Color] Toner Empty	The color toner cartridge has run out. The machine stops printing.	Replace the color toner cartridge with a new one.
[Color] Toner Low	The corresponding color toner cartridge is almost empty.	Take out the toner cartridge and thoroughly shake it. By doing this, you can tem porarily reestablish printing operations.
[COMM. Error]	The machine has a communication problem.	Ask the sender to try again.
[Incompatible]	The remote machine does not have the requested feature, such as polling. This message also occurs if the remote machine does not have enough memory space to complete the operation you are attempting.	Reconfirm the remote machine's features.
[Line Error]	Your machine cannot connect with the receiving fax machine or has lost contact because of a problem with the phone line.	Try again. If the problem persists, wait an hour or so for the line to clear and try again. Or, turn the ECM mode on.
[No Answer]	The receiving fax machine has not answered after several redial attempts.	Try again. Make sure that the receiving machine is operational.
[No Paper] Add Paper	The paper in the tray has run out.	Load paper in the tray.
[Stop Pressed]	Stop/Clear has been pressed during an operation.	Try again.
ADC Not Confirm Error	A problem has occurred in the ADC in the machine.	Replace to the Main board.
Cancel? 1:Yes 2:No	Your machine's memory has become full while trying to store an original into mem ory.	To cancel the fax job, press the 1 button to accept Yes. If you want to send those pages that have been successfully stored, press the 2 button to accept No. You should send the remaining pages later, when memory is available.
Deve Home Sensor Error	There is a problem in the fuser unit.	Unplug the power cord and plug it back in. If the problem persists, Replace to the Main board.
Document Jam	The loaded original has jammed in the ADF.	Clear the jam.
Door Open	The front cover or rear cover is not securely latched.	Close the cover until it locks into place.
Enter Again	You entered an unavailable item.	Enter the correct item again.
Fuser Fan Locked	There is a problem in the cooling fan of the machine.	Open and then close the front cover.
Group Not Available	You have tried to select a group location number where only a single location number can be used, such as when adding locations for a Multiple Send operation.	Use a speed dial number or dial a number manually using the number keypad.

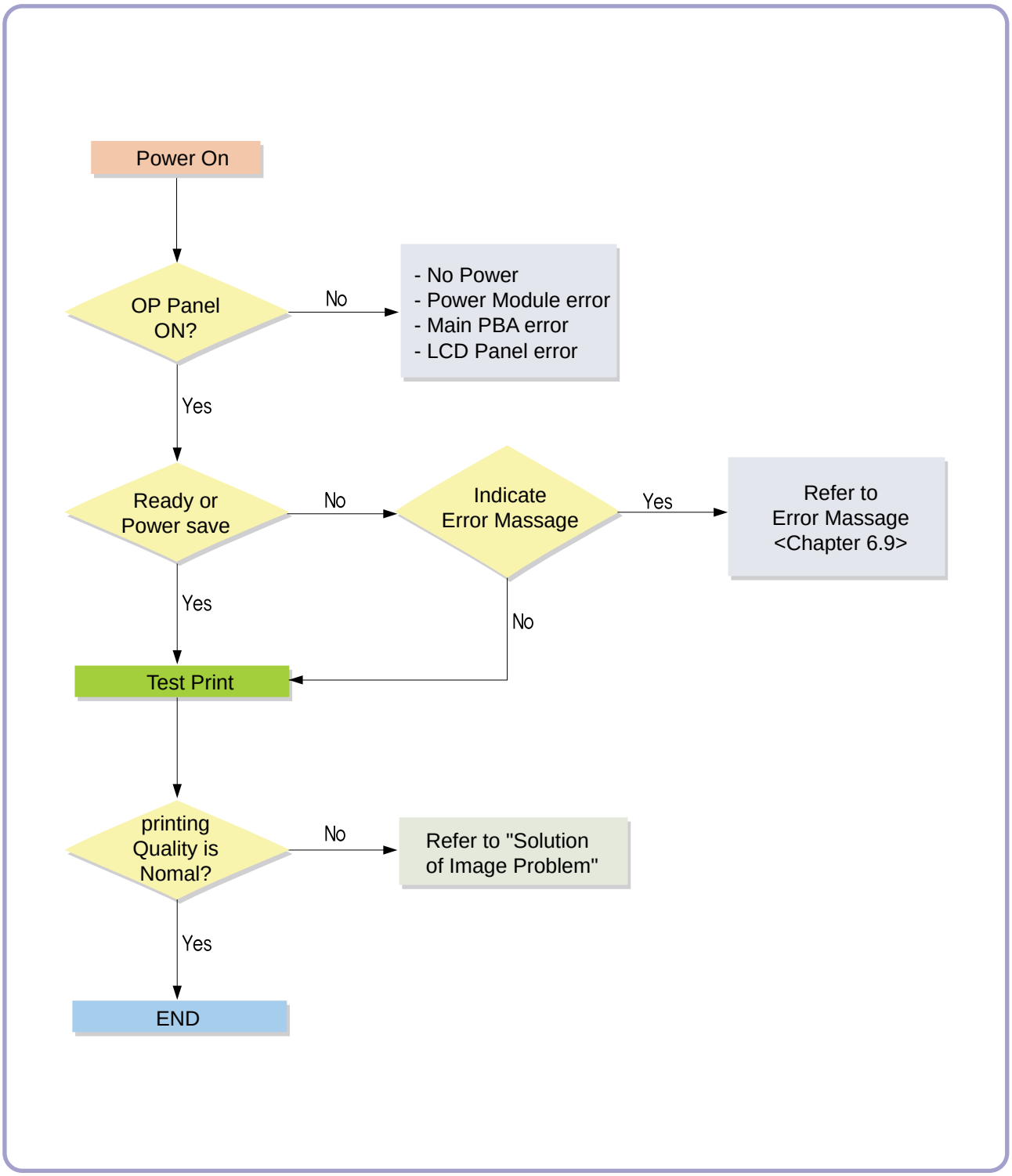
Display	Meaning	Suggested solutions
Install [Color] Toner	The color toner cartridge is not installed.	Install the color toner cartridge.
Install [Part]	The corresponding part of the machine is not installed.	Install the part into your machine.
Invalid [Color] Toner	The color toner cartridge you have installed is not for your machine.	Install the a Samsung-genuine color toner cartridge designed for your machine.
Invalid [Part]	The color part of the machine is not for your machine.	Install the a Samsung-genuine part designed for your machine.
Line Busy	The receiving fax machine did not answer or the line is already engaged.	Try again after a few minutes.
Low Heat Error Cycle Power	There is a problem in the fuser unit.	Unplug the power cord and plug it back in. If the problem persists, Replace to the Toner Cartridge.
LSU Hsync Error Cycle Power	A problem has occurred in the LSU (Laser Scanning Unit).	Unplug the power cord and plug it back in. If the problem persists, Replace to the Toner Cartridge.
LSU Motor Error Cycle Power	A problem has occurred in the LSU (Laser Scanning Unit).	Unplug the power cord and plug it back in. If the problem persists, Replace to the LSU Unit.
Main Motor Locked	There is a problem in the main motor.	Open and then close the front cover.
Memory Dial Full	You are trying to schedule a fax job when memory for storing fax jobs is full.	Wait until a scheduled job is complete.
Memory Full	The memory is full.	Delete unnecessary fax jobs and retransmit after more memory becomes available. Alternatively, split the transmission into more than one operation.
MP Tray Paper Empty	There is no paper in the multi-purpose tray.	Load paper in the multi-purpose tray.
Not Assigned	The speed button or speed dial number you tried to use has no number assigned to it.	Enter the number manually using the number keypad or store the number or address.
Open Heat Error Cycle Power	There is a problem in the fuser unit.	Unplug the power cord and plug it back in. If the problem persists, Replace to the Fuser Unit.
Operation Not Assigned	You are in the Add Page/Cancel Job operation, but there are no jobs stored.	Check the display to see if there are any scheduled jobs.
Out Bin Full	The output tray of the machine is full of paper.	Remove paper.
Paper Jam 0 Open/Close Door	Paper has jammed in the feeding area of the tray.	Clear the jam.
Paper Jam 1 Open/Close Door	Paper has jammed in the paper exit area.	Clear the jam.
Power Failure	Power has turned off then on and the machine's memory has not been back up.	The job which you were trying to do before the power failure must be completely re-done.

Display	Meaning	Suggested solutions
Replace [Color] Toner	This message appears between Toner Empty and Toner Low status.	Replace the toner cartridge with a new one.
Replace [Part]	The life of the part expires totally.	Replace the part with a new one. Call for service.
Replace [Part] Soon	The life of the part expires soon.	Replace to maintenance part.
Retry Redial?	The machine is waiting for a specified time interval to redial a previously busy station.	You can press OK to immediately redial, or Stop/Clear to cancel the redial operation.
Scanner locked	The scanner module is locked	Unlock the scanner and press Stop/Clear.
SCF Cover Open	The jam cover in the optional tray 2 is open.	Close the jam cover in the optional tray 2.
SCF Paper Jam	Paper has jammed in the optional tray 2.	Clear the jam.
Self Diagnostic...	The engine in your machine is checking some problems detected.	Please wait a few minutes.
Transfer Belt Error	A problem has occurred in the transfer belt in the machine.	Unplug the power cord and plug it back in. If the problem persists, please call for service.
Tray 1 Paper Empty	There is no paper in the tray 1.	Load paper in the tray 1.
Tray 2 Paper Empty	There is no paper in the optional tray 2.	Load paper in the optional tray 2.

7. Troubleshooting

7.1 Procedure of Checking the Symptoms

Before attempting to repair the printer first obtain a detailed description of the problem from the customer.



7.2 Solving other problems

The following chart lists some conditions that may occur and the recommended solutions. Follow the suggested solutions until the problem is corrected.

7.2.1 Paper Feeding Problems

Condition	Suggested solutions
Paper is jammed during printing.	Clear the paper jam.
Paper sticks together.	· Ensure that there is not too much paper in the tray. The tray can hold up to 150 sheets of paper, depending on the thickness of your paper. · Make sure that you are using the correct type of paper. · Remove paper from the tray and flex or fan the paper. · Humid conditions may cause some paper to stick together.
Multiple sheets of paper do not feed.	· Different types of paper may be stacked in the tray. Load paper of only one type, size, and weight. · If multiple sheets have caused a paper jam, clear the paper jam.
Paper does not feed into the machine.	· Remove any obstructions from inside the machine. · Paper has not been loaded correctly. Remove paper from the tray and reload it correctly. · There is too much paper in the tray. Remove excess paper from the tray. · The paper is too thick. Use only paper that meets the specifications required by the machine. · If an original does not feed into the machine, the ADF rubber pad may require to be replaced.
The paper keeps jamming.	· There is too much paper in the tray. Remove excess paper from the tray. If you are printing on special materials, use the mamual tray. · An incorrect type of paper is being used. Use only paper that meets the specifications required by the machine. · There may be debris inside the machine. Open the front cover and remove the debris. · If an original does not feed into the machine, the ADF rubber pad may require to be replaced.
Transparencies stick together in the paper exit.	Use only transparencies specifically designed for laser printers. Remove each transparency as it exits from the machine.
Envelopes skew or fail to feed correctly.	Ensure that the paper guides are against both sides of the envelopes.

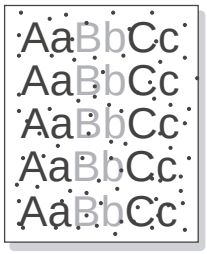
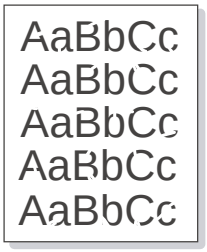
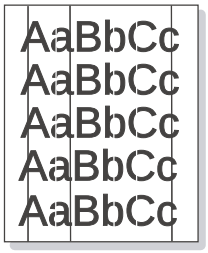
7.2.2 Printing problems

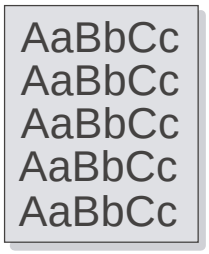
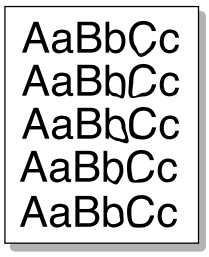
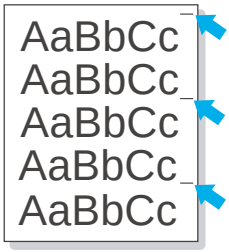
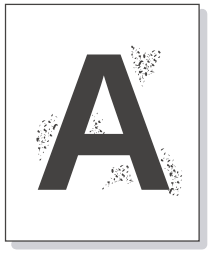
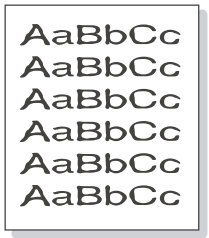
Condition	Possible cause	Suggested solutions
The machine does not print.	The machine is not receiving power.	Check the power cord connections. Check the power switch and the power source.
	The machine is not selected as the default printer.	Select Samsung CLX-3160 Series as your default printer in your Windows.
	Check the machine for the following: · The front cover is not closed. Close the cover. · Paper is jammed. Clear the paper jam. · No paper is loaded. Load paper. · The toner cartridge is not installed. Install the toner cartridge. If a system error occurs, contact your service representative.	
	The connection cable between the computer and the machine is not connected properly.	Disconnect the printer cable and reconnect it.
	The connection cable between the computer and the machine is defective.	If possible, attach the cable to another computer that is working properly and print a job. You can also try using a different printer cable.
	The port setting is incorrect.	Check the Windows printer setting to make sure that the print job is sent to the correct port. If the computer has more than one port, make sure that the machine is attached to the correct one.
	The machine may be configured incorrectly.	Check the printer properties to ensure that all of the print settings are correct.
The machine does not print. (continued)	The printer driver may be incorrectly installed.	Repair the printer software. See the Software Section.
	The machine is malfunctioning.	Check the display message on the control panel to see if the machine is indicating a system error.
The machine selects print materials from the wrong paper source.	The paper source selection in the printer properties may be incorrect.	For many software applications, the paper source selection is found under the Paper tab within the printer properties. Select the correct paper source. See the printer driver help screen.

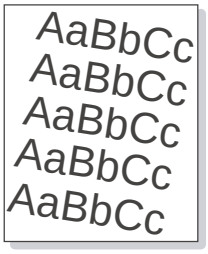
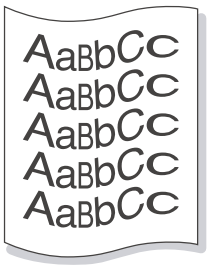
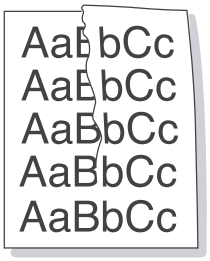
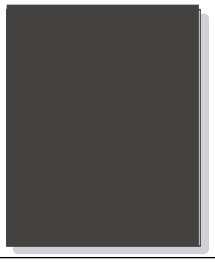
Condition	Possible cause	Suggested solutions
A print job is extremely slow.	The job may be very complex.	Reduce the complexity of the page or try adjusting the print quality settings.
	If you are using Windows 9x/Me, the Spool Setting may be set incorrectly.	From the Start menu, choose Settings and then Printers. Right-click the Samsung CLX-3160 Series machine icon, choose Properties, click the Details tab, and then choose the Spool Settings button. Select the desired spool setting.
Half the page is blank.	The page orientation setting may be incorrect.	Change the page orientation in your application. See the printer driver help screen.
	The paper size and the paper size settings do not match.	Ensure that the paper size in the printer driver settings matches the paper in the tray. Or, ensure that the paper size in the printer driver settings matches the paper selection in the software application settings you use.
The machine prints, but the text is wrong, garbled, or incomplete.	The printer cable is loose or defective.	Disconnect the printer cable and reconnect. Try a print job that you have already printed successfully. If possible, attach the cable and the machine to another computer and try a print job that you know works. Finally, try a new printer cable.
	The wrong printer driver was selected.	Check the application's printer selection menu to ensure that your machine is selected.
	The software application is malfunctioning.	Try printing a job from another application.
	The operating system is malfunctioning.	Exit Windows and reboot the computer. Turn the machine off and then back on again.
Pagesprint, but are blank.	The toner cartridge is defective or out of toner.	Redistribute the toner, if necessary. If necessary, replace the toner cartridge.
	The file may have blank pages.	Check the file to ensure that it does not contain blank pages.
	Some parts, such as the controller or the board, may be defective.	Contact a service representative.
The illustrations print incorrectly in Adobe Illustrator.	The setting in the software application is wrong.	Select Download as Bit Image in the TrueType Options window of the graphic properties and print the document again.

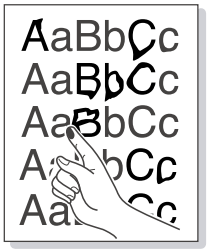
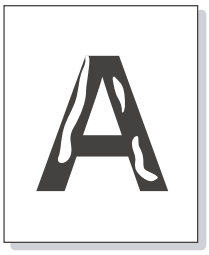
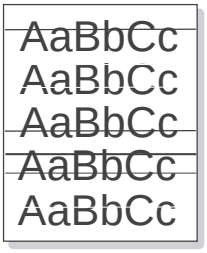
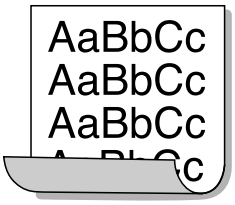
7.2.3 Print Quality Problems

If the inside of the machine is dirty or paper has been loaded improperly, you may notice a reduction in print quality. See the table below to clear the problem.

Condition	Suggested solutions
Light or faded print 	If a vertical white streak or faded area appears on the page: · The toner supply is low. You may be able to temporarily extend the toner cartridge life. If this does not improve the print quality, install a new toner cartridge. · The paper may not meet paper specifications; for example, the paper is too moist or too rough. · If the entire page is light, the print resolution setting is too low. Adjust the print resolution. See the help screen of the printer driver. · A combination of faded or smeared defects may indicate that the toner cartridge needs cleaning. · The surface of the LSU part inside the machine may be dirty. Clean the LSU.
Toner specks 	· The paper may not meet specifications; for example, the paper is too moist or too rough. · The transfer roller may be dirty. Clean the inside of your machine. · The paper path may need cleaning.
Dropouts 	If faded areas, generally rounded, occur randomly on the page: · A single sheet of paper may be defective. Try reprinting the job. · The moisture content of the paper is uneven or the paper has moist spots on its surface. Try a different brand of paper. · The paper lot is bad. The manufacturing processes can cause some areas to reject toner. Try a different kind or brand of paper. · If these steps do not correct the problem, contact a service representative.
Vertical lines 	If black vertical streaks appear on the page: · The drum inside the toner cartridge has probably been scratched. Remove the toner cartridge and install a new one. If white vertical streaks appear on the page: · The surface of the LSU part inside the machine may be dirty. Clean the LSU.

Condition	Suggested solutions
Color or Black background 	If the amount of background shading becomes unacceptable: · Change to a lighter weight paper. · Check the machine's environment: very dry (low humidity) or high humidity (higher than 80% RH) conditions can increase the amount of background shading. · Remove the old toner cartridge and install a new one.
Toner smear 	· Clean the inside of the machine. · Check the paper type and quality. · Remove the toner cartridge and install a new one.
Vertical repetitive defects 	If marks repeatedly appear on the printed side of the page at even intervals: · The toner cartridge may be damaged. If a repetitive mark occurs on the page, print a cleaning sheet several times to clean the cartridge. After the printout, if you still have the same problems, remove the toner cartridge and install a new one. · Parts of the machine may have toner on them. If the defects occur on the back of the page, the problem will likely correct itself after a few more pages. · The fusing assembly may be damaged. Contact a service representative.
Background scatter 	Background scatter results from bits of toner distributed on the printed page. · The paper may be too damp. Try printing with a different batch of paper. Do not open packages of paper until necessary so that the paper does not absorb too much moisture. · If background scatter occurs on an envelope, change the printing layout to avoid printing over areas that have overlapping seams on the reverse side. Printing on seams can cause problems. · If background scatter covers the entire surface area of a printed page, adjust the print resolution through your software application or the printer properties.
Misformed characters 	· If characters are improperly formed and producing hollow images, the paper stock may be too slick. Try a different paper. · If characters are improperly formed and producing a wavy effect, the scanner unit may need service. For service, contact a service representative.

Condition	Suggested solutions
Page skew 	· Ensure that the paper is loaded properly. · Check the paper type and quality. · Ensure that the paper or other material is loaded correctly and the guides are not too tight or too loose against the paper stack.
Curl or wave 	· Ensure that the paper is loaded properly. · Check the paper type and quality. Both high temperature and high humidity can cause paper curl. · Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray.
Wrinkles or creases 	· Ensure that the paper is loaded properly. · Check the paper type and quality. · Turn the stack of paper over in the paper tray. Also try rotating the paper 180° in the tray.
Back of printouts aredirty 	Check for leaking toner. Clean the inside of the machine.
Solid Color or Black pages 	· The toner cartridge may not be installed properly. Remove the toner cartridge and reinsert. · The toner cartridge may be defective and need replacing. Remove the toner cartridge and install a new one. · The machine may require repair. Contact a service representative.

Condition	Suggested solutions
Loose toner 	· Clean the inside of the machine. · Check the paper type and quality. · Remove the toner cartridge and install a new one. · If the problem persists, the printer may require repair. Contact a service representative.
Character Voids 	Character voids are white areas within characters that should be solid black: · If you are using transparencies, try another type of transparency. Because of the composition of transparencies, some character voids are normal. · You may be printing on the wrong surface of the paper. Remove the paper and turn it around. · The paper may not meet paper specifications.
Horizontal stripes 	If horizontally aligned black streaks or smears appear: · The toner cartridge may be installed improperly. Remove the cartridge and reinsert it. · The toner cartridge may be defective. Remove the toner cartridge and install a new one. · If the problem persists, the machine may require repair. Contact a service representative.
Curl 	If the printed paper is curled or paper does not feed into the printer: · Turn the stack of paper over in the paper tray. Also try rotating the paper 180° in the tray.

7.2.4 Copying problems

Condition	Suggested solutions
Copies are too light or too dark.	Use Darkness to darken or lighten the background of the copies.
Smears, lines, marks, or spots appears on copies.	· If defects are on the original, press Darkness to lighten the background of your copies. · If no defects are on the original, clean the scan unit.
Copy image is skewed.	· Ensure that the original is face down on the scanner glass or face up in the ADF. · Check that the copy paper is loaded correctly.
Blank copies print out.	Ensure that the original is face down on the scanner glass or face up in the ADF.
Image rubs off the copy easily.	· Replace the paper in the tray with paper from a new package. · In high humidity areas, do not leave paper in the machine for extended periods of time.
Frequent copy paper jams occur.	· Fan the stack of paper, then turn it over in the tray. Replace the paper in the tray with a fresh supply. Check/adjust the paper guides, if necessary. · Ensure that the paper is the proper paper weight. 75 g/m 2 (20 lb bond) paper is recommended. · Check for copy paper or pieces of copy paper remaining in the machine after a paper jam has been cleared.
Toner cartridge produces fewer copies than expected before running out of toner.	· Your originals may contain pictures, solids, or heavy lines. For example, your originals may be forms, newsletters, books, or other documents that use more toner. · The machine may be turned on and off frequently. · The scanner lid may be left open while copies are being made.

7.2.5 Scanning problems

Condition	Suggested solutions
The scanner does not work.	· Make sure that you place the original to be scanned face down on the scanner glass, or face up in the ADF. · There may not be enough available memory to hold the document you want to scan. Try the Prescan function to see if that works. Try lowering the scan resolution rate. · Check that the USB cable is connected properly. · Make sure that the USB cable is not defective. Switch the cable with a known good cable. If necessary, replace the cable. · Check that the scanner is configured correctly. Check scan setting in the SmarThru Configuration or the application you want to use to make certain that the scanner job is being sent to the correct port.
The unit scans very slowly.	· Check if the machine is printing received data. If so, scan the document after the received data has been printed. · Graphics are scanned more slowly than text. · Communication speed slows in scan mode because of the large amount of memory required to analyze and reproduce the scanned image. Set your computer to the ECP printer mode through BIOS setting. It will help to increase the speed. For details about how to set BIOS, refer to your computer user's guide.
Message appears on your computer screen: · "Device can't be set to the H/W mode you want." · "Port is being used by another program." · "Port i s Disabled. · "Scanner is busy receiving or printing data. When the current job is completed, try again." · "Invalid handle." · "Scanning has failed."	· There may be a copying or printing job in progress. When that job is complete, try your job again. · The Selected port is currently being used. Restart your computer and try again. · The printer cable may be improperly connected or the power may be off. · The scanner driver is not installed or the operating environment is not set up properly. · Ensure that the machine is properly connected and the power is on, Then restart your computer. · The USB cable may be improperly connected or the power may be off.

7.2.6 Network Scan problems

Condition	Suggested solutions
I cannot find a scanned image file.	You can check the scanned file's destination in the Advanced page in the Network Scan program's Properties screen.
I cannot find the scanned image file after scanning.	· Check if the scanned file's application is on your computer. · Check Open immediately with the default application in the Advanced page in the Network Scan program's Properties screen to open the scanned image immediately after scanning.
I forgot my ID and PIN.	Check your ID and PIN in the Server page in the Network Scan program's Properties screen.
I cannot view the Help file.	To view the Help file, you need to have Internet Explorer 4 service pack 2 or above.
I cannot use the Samsung Network Scan Manager.	Check your operating system. Supporting operating systems are Windows 98/Me/NT 4.0/2000/XP/2003.

7.2.7 Fax problems (CLX-3160FN only)

Condition	Suggested solutions
The machine is not working, there is no display and the buttons are not working.	· Unplug the power cord and plug it in again. · Ensure that there is power to the electrical outlet.
No dial tone sounds.	· Check that the phone line is connected properly. · Check that the phone socket in the wall is working by plugging in another phone.
The numbers stored in memory do not dial correctly.	Make sure that the numbers are stored in memory correctly.
The original does not feed into the machine.	· Make sure that the paper is not wrinkled and you are putting it in correctly. Check that the original is the right size, not too thick or thin · Make sure that the ADF is firmly closed. · The ADF rubber pad may need to be replaced.
Faxes are not received automatically.	· The receiving mode should be set to Fax. · Make sure that there is paper in the tray. · Check to see if the display shows any error message. If it does, clear the problem.

Condition	Suggested solutions
The machine does not send.	· Make sure that the original is loaded in the ADF or on the scanner glass. · Sending should show up on the display. · Check the fax machine you are sending to, to see if it can receive your fax.
The incoming fax has blank spaces or is of poor-quality.	· The fax machine sending you the fax may be faulty. · A noisy phone line can cause line errors. · Check your machine by making a copy. · The toner cartridge may be empty.
Some of the words on an incoming fax are stretched.	The fax machine sending you the fax had a temporary document jam.
There are lines on the originals you send.	Check your scan unit for marks and clean it.
The machine dials a number, but a connection with the other fax machine fails.	The other fax machine may be turned off, out of paper, or cannot answer incoming calls. Speak with the other machine operator and ask her/him to sort out the problem.
Faxes do not store in memory.	There may not be enough memory space to store the fax. If the display shows the Memory Full message, delete from memory any faxes you no longer need and then try again to store the fax.
Blank areas appear at the bottom of each page or on other pages, with a small strip of text at the top.	You may have chosen the wrong paper settings in the user option setting. For details about paper settings.

7.2.8 Common Windows problems

Condition	Suggested solutions
"File in Use" message appears during installation.	Exit all software applications. Remove all software from the StartUp Group, then restart Windows. Reinstall the printer driver.
"Error Writing to LPTx" message appears.	· Ensure that the cables are connected correctly, the machine is on. · If bi-directional communication is not turned on in the driver, it will also cause this message.
"General Protection Fault", "Exception OE", "Spool32", or "Illegal Operation" messages appear.	Close all other applications, reboot Windows and try printing again.
"Fail To Print", "A printer timeout error occurred." messages appear.	These messages may appear during printing. Just keep waiting until the machine finishes printing. If the message appears in standby mode or after printing has been completed, check the connection and/or whether an error has occurred.

7.2.9 Common Linux problems

Condition	Suggested solutions
The machine does not print.	· Check if the printer driver is installed in your system. Open MFP configurator and switch to the Printers tab in Printers configuration window to look at the list of available printers. Make sure that your machine is displayed on the list. If not, please, invoke Add new printer wizard to set up your device. · Check if the printer is started. Open Printers configuration and select your machine on the printers list. Look at the description in the Selected printer pane. If its status contains "(stopped)" string, please, press the Start button. After that normal operation of the printer should be restored. The "stopped" status might be activated when some problems in printing occurred. For instance, this could be an attempt to print document when MFP port is claimed by a scanning application. · Check if the MFP port is not busy. Since functional components of MFP (printer and scanner) share the same I/O interface (MFP port), the situation of simultaneous access of different "consumer" application to the same MFP port is possible. To avoid possible conflicts, only one of them at a time is allowed to gain control over the device. The other "consumer" will encounter "device busy" response. You should open MFP ports configuration and select the port assigned to your printer. In the Selected port pane you can see if the port is occupied by some other application. If this is the case, you should wait for completion of the current job or should press Release port button, if you are sure that the present owner is not functioning properly. · Check if your application has special print option such as "-oraw". If "-oraw" is specified in the command line parameter then remove it to print properly. For Gimp front-end, select "print" -> "Setup printer" and edit command line parameter in the command item.
The machine does not appear on the scanners list.	· Check if your machine is attached to your computer. Make sure that it is connected properly via the USB port and is turned on. · Check if the scanner driver for your machine is installed in your system. Open MFP Configurator, switch to Scanners configuration, then press Drivers. Make sure that driver with a name corresponding to your machine's name is listed in the window.Check if the MFP port is not busy. Since functional components of MFP (printer and scanner) share the same I/O interface (MFP port), the situation of simultaneous access of different "consumer" application to the same MFP port is possible. To avoid possible conflicts, only one of them at a time is allowed to gain control over the device. The other "consumer" will encounter "device busy" response. This can usually happen while starting scan procedure, and appropriate message box appears. · To identify the source of the problem, you should open MFP ports configuration and select the port assigned to your scanner. MFP port's symbol /dev/mfp0 corresponds to LP:0 designation displayed in the scanners' options, /dev/mfp1 relates to LP:1 and so on. USB ports start at /dev/mfp4, so scanner on USB:0 relates to /dev/mfp4 respectively and so forth sequentially. In the Selected port pane you can see if the port is occupied by some other application. If this is the case, you should wait for completion of the current job or should press Release port button, if you are sure that the present port's owner is not functioning properly.

Condition	Suggested solutions
The machine does not scan.	· Check if a document is loaded into the machine. · Check if your machine is connected to the computer. Make sure if it is connected properly if I/O error is reported while scanning. · Check if the MFP port is not busy. Since functional components of MFP (printer and scanner) share the same I/O interface (MFP port), the situation of simultaneous access of different "consumer" application to the same MFP port is possible. To avoid possible conflicts, only one of them at a time is allowed to gain control over the device. The other "consumer" will encounter "device busy" response. This can usually happen while starting scan procedure, and appropriate message box will be displayed. To identify the source of the problem, you should open MFP ports configuration and select the port assigned to your scanner. MFP port's symbol /dev/mfp0 corresponds to LP:0 designation displayed in the scanners' options, /dev/mfp1 relates to LP:1 and so on. USB ports start at /dev/mfp4, so scanner on USB:0 relates to /dev/mfp4 respectively and so forth sequentially. In the Selected port pane you can see if the port is occupied by some other application. If this is the case, you should wait for completion of the current job or should press Release port button, if you are sure that the present port's owner is not functioning properly.
I cannot print when I installed both Linux Print Package (LPP) and MFP driver on the same machine simultaneously.	· Since both Linux Printer Package and MFP driver make a symbolic link to "lpr" printing command, which is commonly used on Unix clones, it is not recommended to use both package on the same machine. · If you still want to use both packages simultaneously, please install the LPP first. · If you want to uninstall only one of them, please uninstall both packages and install that one you want to use again. · If you don't want to uninstall MFP driver and install it again, you may make the necessary symbolic link yourself. Please, log in as root user and invoke the following command: ln -sf /usr/local/bin/samsung/slpr /usr/bin/lpr
I cannot scan via Gimp Front-end.	· Check if Gimp Front-end has "Xsane:Device dialog." on the "Acquire" menu. If not, you should install Xsane plug-in for Gimp on the your computer. You can find Xsane plug-in package for Gimp on Linux distribution CD or Gimp home page. For the detail information, refer to the Help for Linux distribution CD or Gimp Front-end application. If you wish to use other kind of scan application, refer to the Help for application.
I encounter error "Cannot open MFP port device file" when printing a document.	Please avoid changing print job parameters (via SLPR utility, for example) while a print job is in progress. Known versions of CUPS server break the print job whenever print options are changed and then try to restart the job from the beginning. Since Linux MFP driver locks MFP port while printing, the abrupt termination of the driver keeps the port locked and therefore unavailable for subsequent print jobs. If this situation occurred, please, try to release the MFP port.

7.2.10 Common Macintosh problems (CLX-3160FN only)

Condition	Suggested solutions
The printer does not print a document from Acrobat Reader.	You should change the Print Method option to Print as Image when you print from Acrobat Reader.
The document has printed, but the print job has not disappeared from the spooler in Mac OS 10.3.2.	Update your Mac OS to OS 10.3.3. or higher.

8. Exploded Views and Parts List

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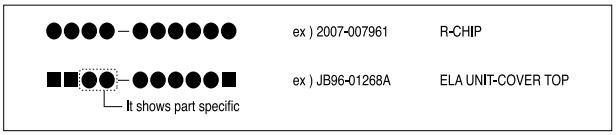
Way to observe Part Code & Description

Part code and Description is quoted and controlled by determined standard. Refer to this determined standard, it will help with ordering Part.

• **There are two kinds of Part code inscription type.**



(● : figure, ■ : character (alphabet))

Type 1 : Controlled by Company : It can be commonly used for all kinds of product SEC produce. Mostly, electronics Parts.

Type 2 : Controlled by Division : It is used or one produce. Mostly, Mostly, mechanical Parts.

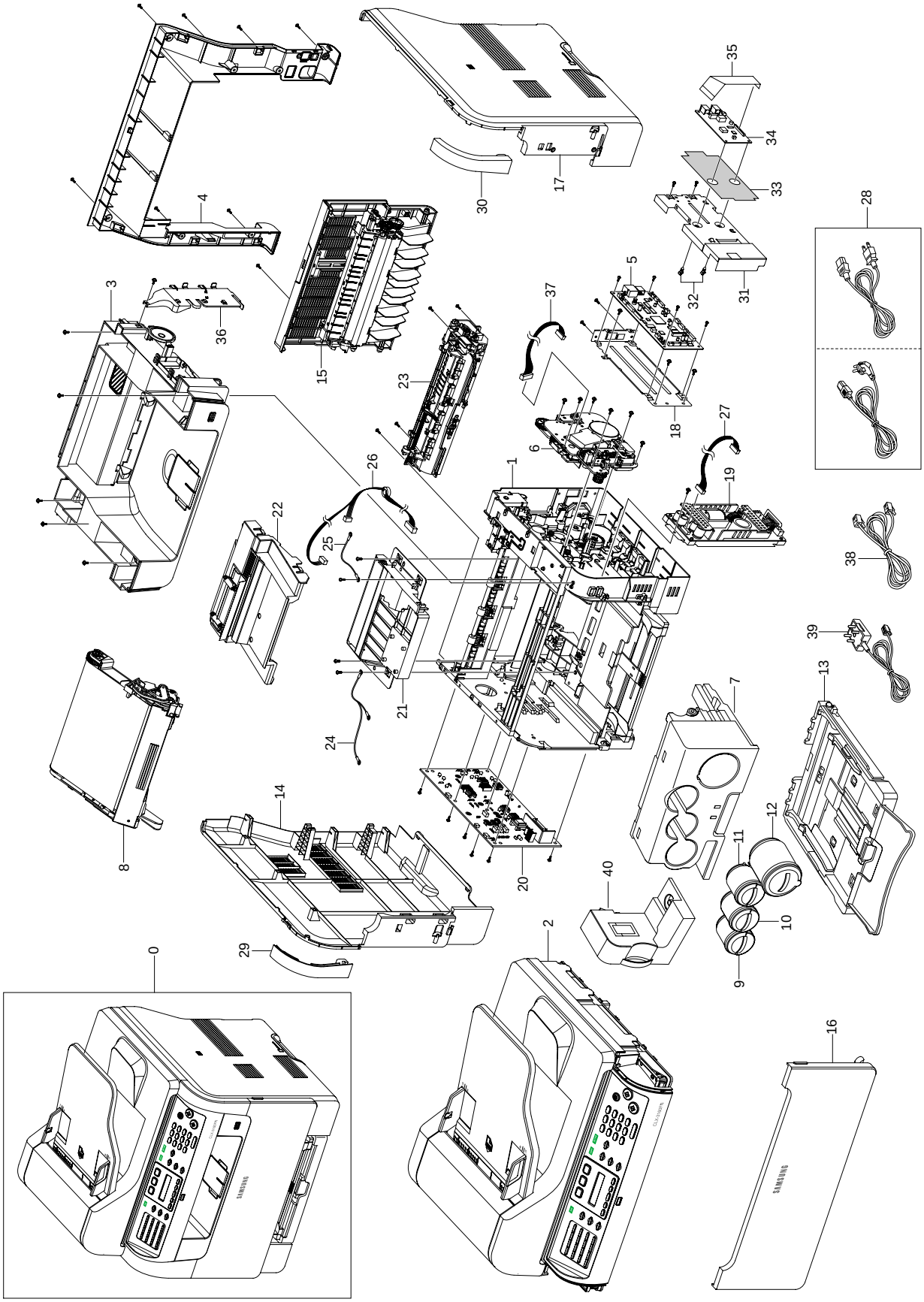
• **A/S privately used part :** It is only used for A/S .

• **Ass'y part :** Assembled by more than 2 Parts. If necessary part is not A/S Part, Ass'y part including necessary par can be used. It is shown in the diagram and drawing of SVC manual.

• Ass'y part and A/S privately used Part is distinguished by part Code and Description.
The are inscription type 2. It is recognized by Part character and front side of description.

DIVISION	PART CODE	DESCRIPTION
A/S Private	**81-****** (JB81-00039A)	AS-***** (AS-USE)
ASS'Y Part	**75-****** (JB75-00068A)	MEC-***** (MEC-CHUTE)
ASS'Y Part	**92-****** (JB92-01131A)	PBA ****** (PBA MAIN-CONTROLLER)
ASS'Y Part	**97-****** (JB97-01089A)	MEA ****** (MEA UNIT-PULLEY IDLE)

8.1 Main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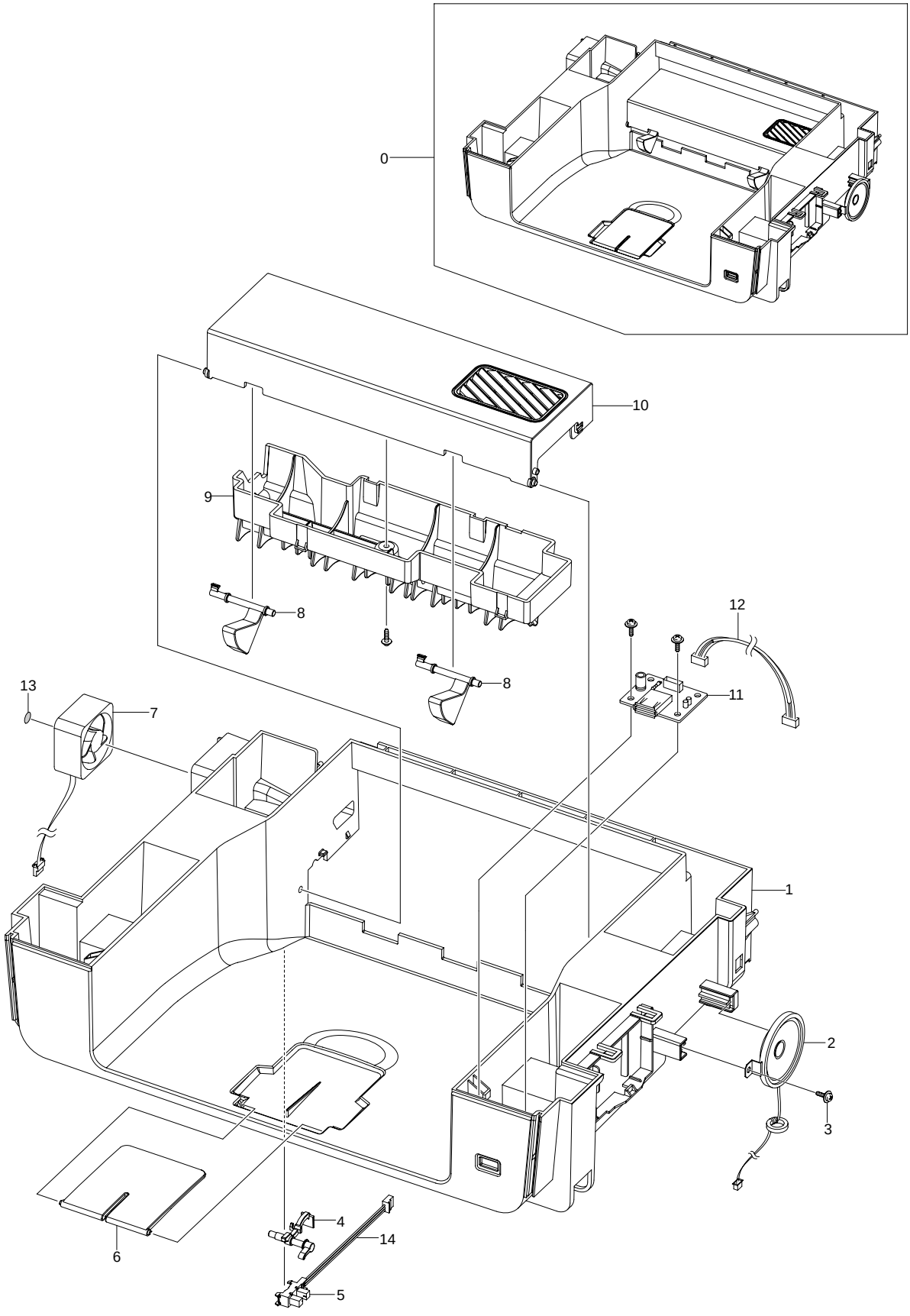
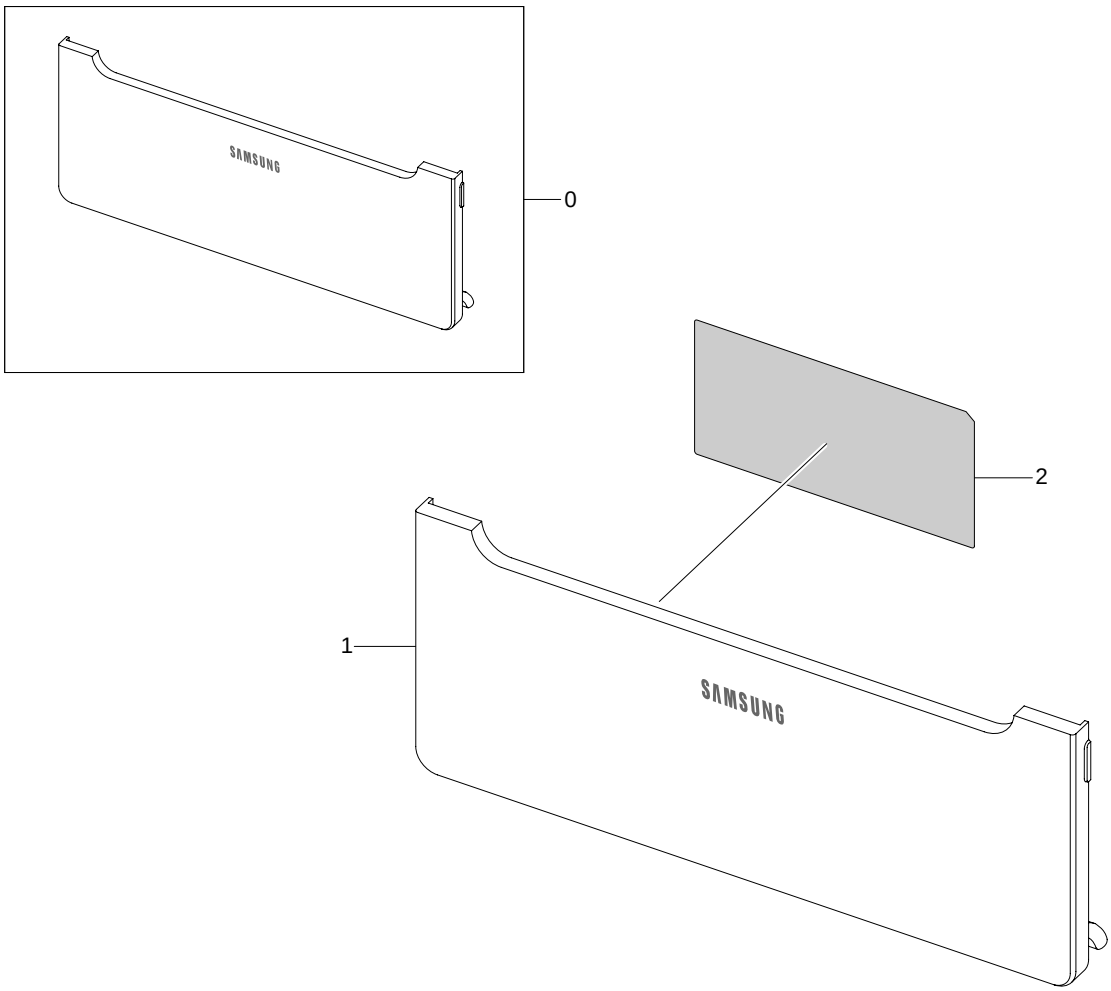
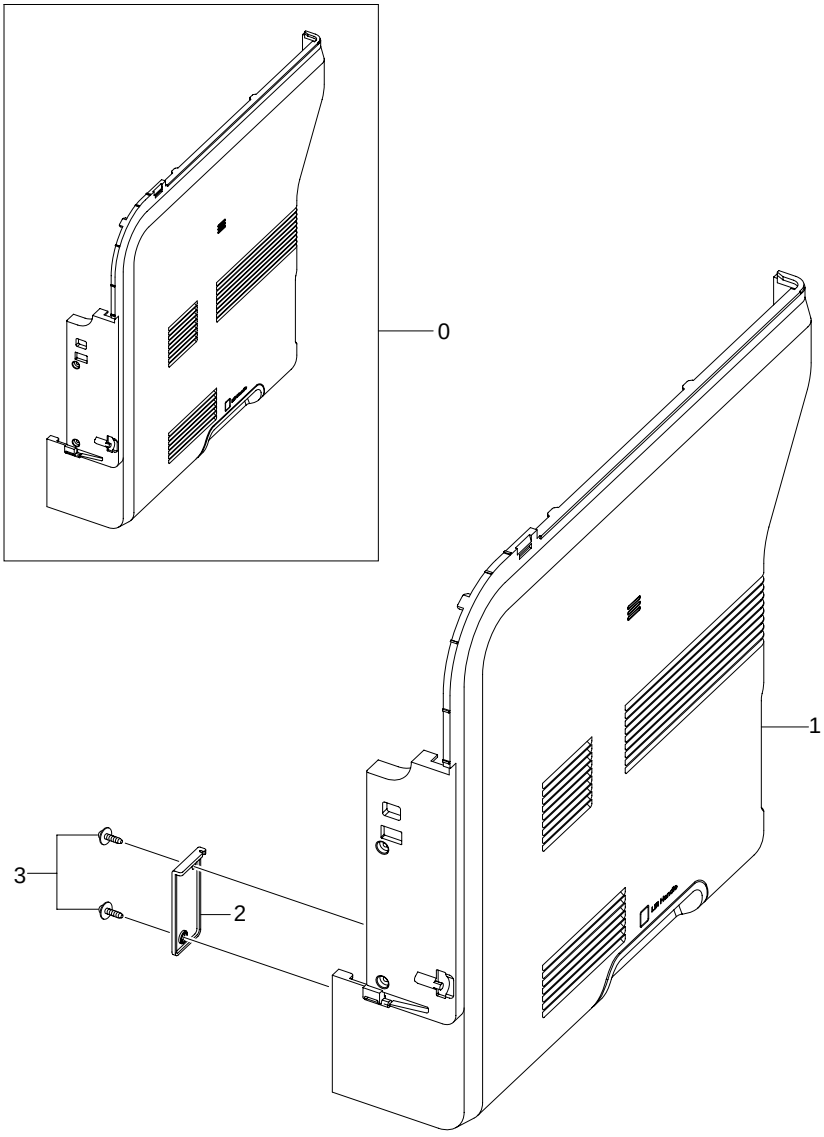
8.2 Middle Cover



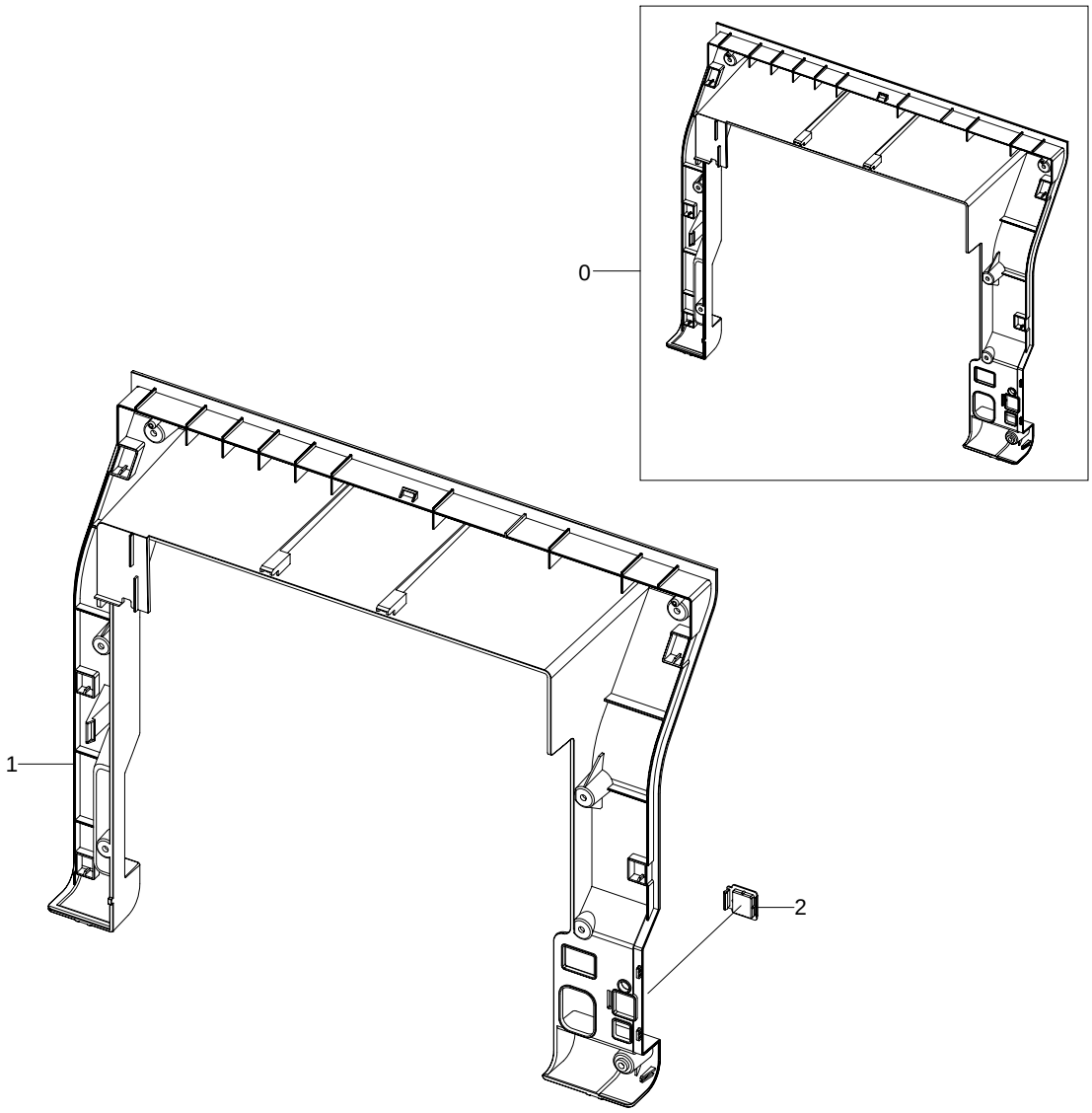
8.3 Front Cover



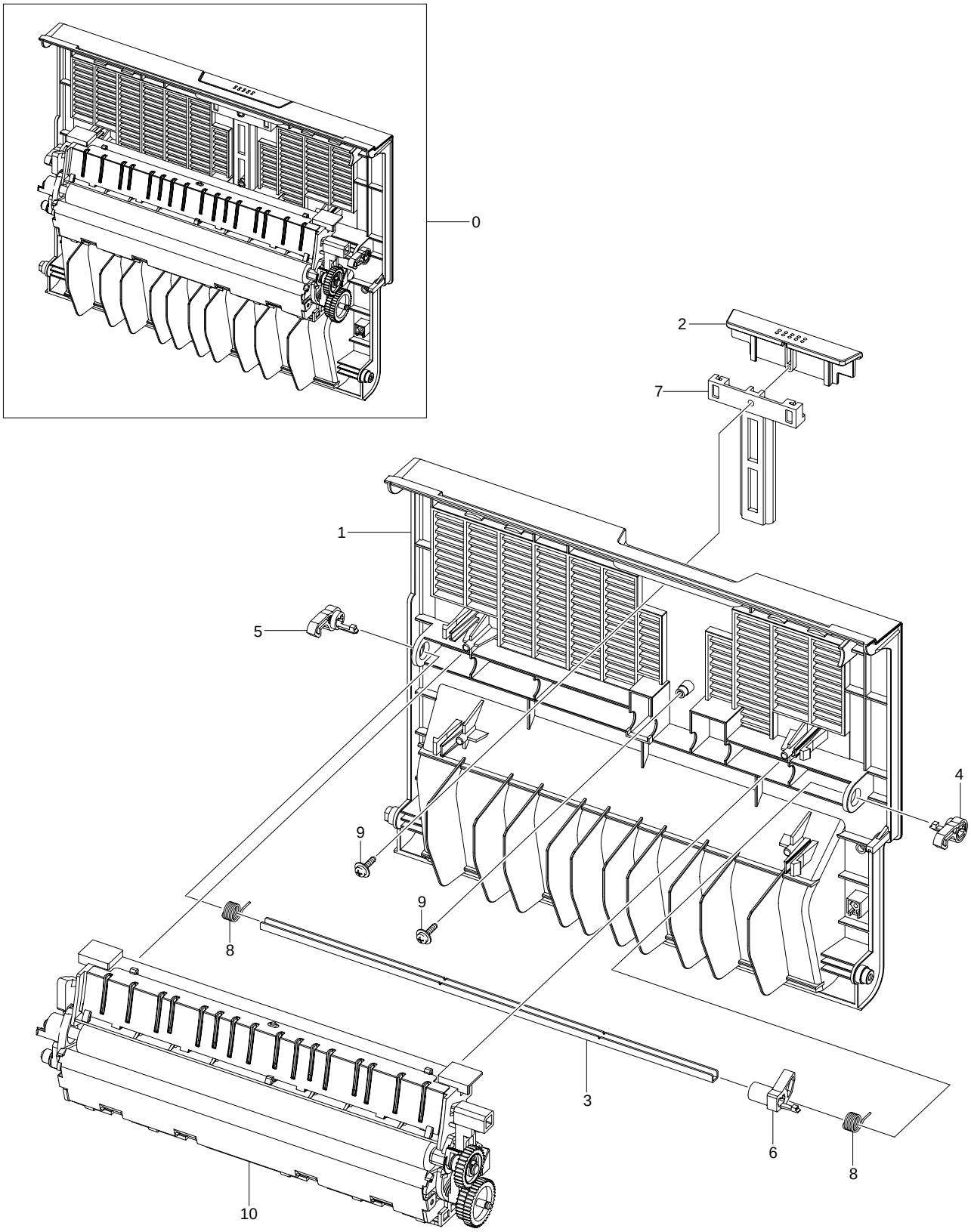
8.4 Right Cover



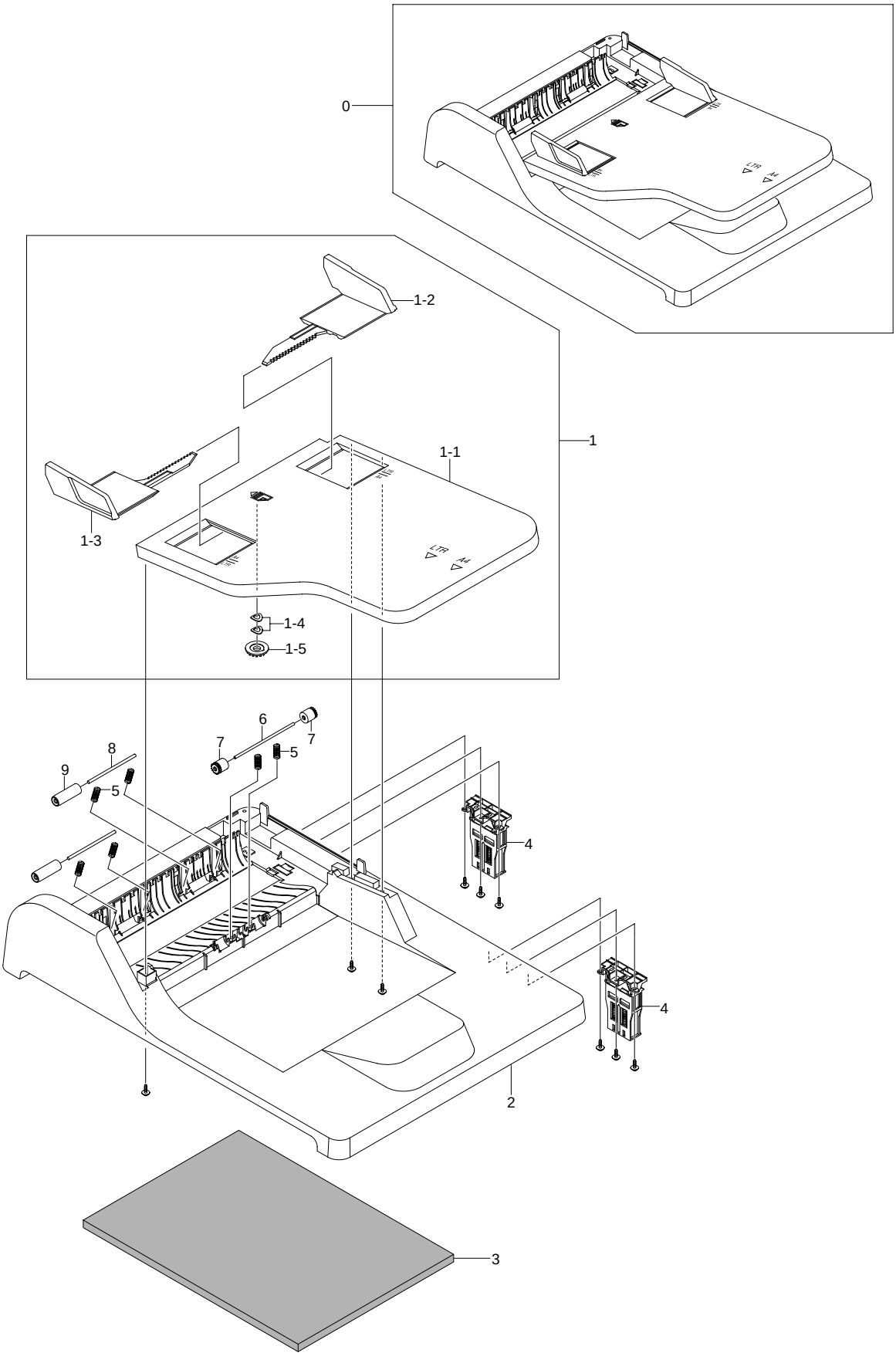
8.5 Round Cover



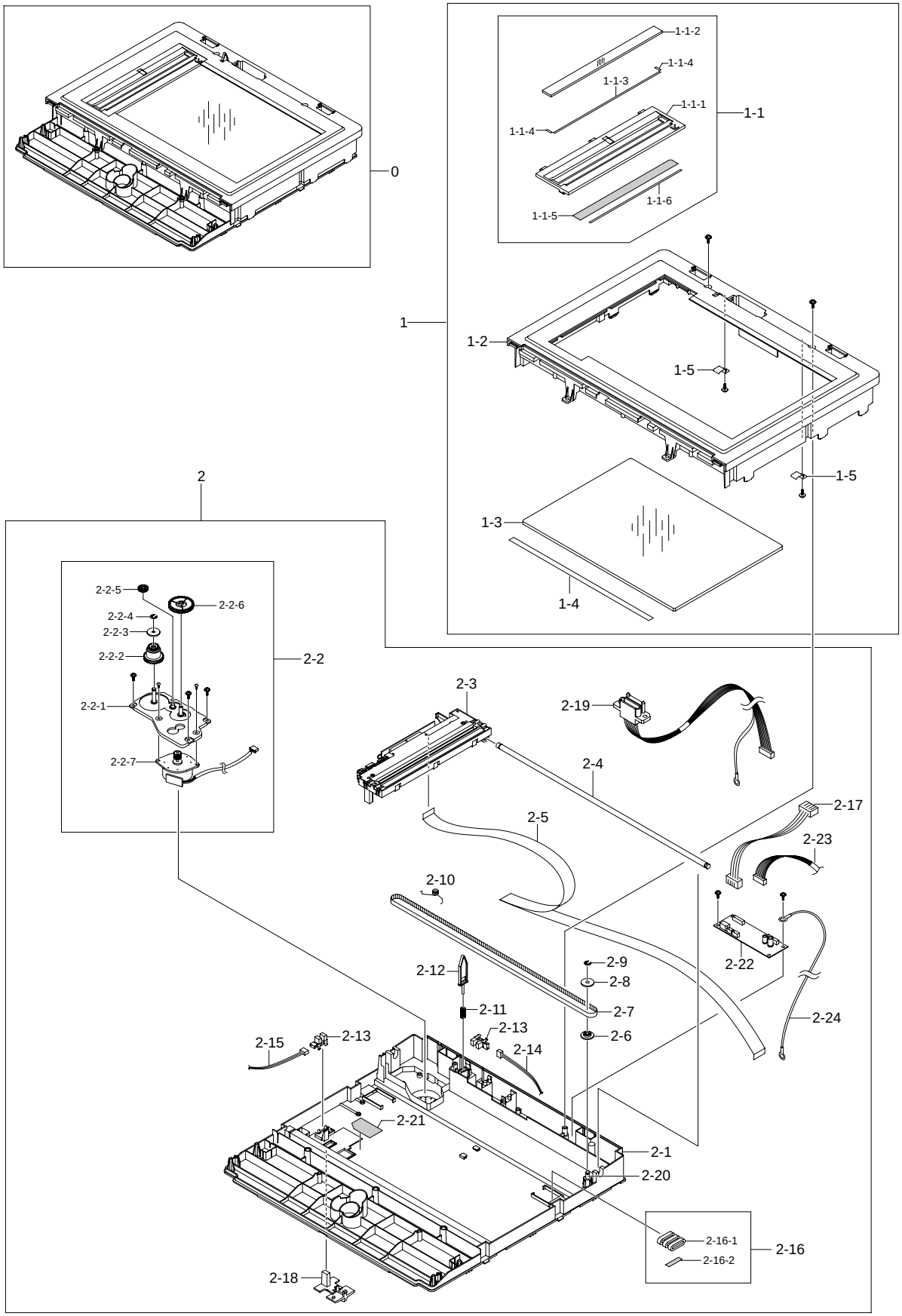
8.6 Rear Cover



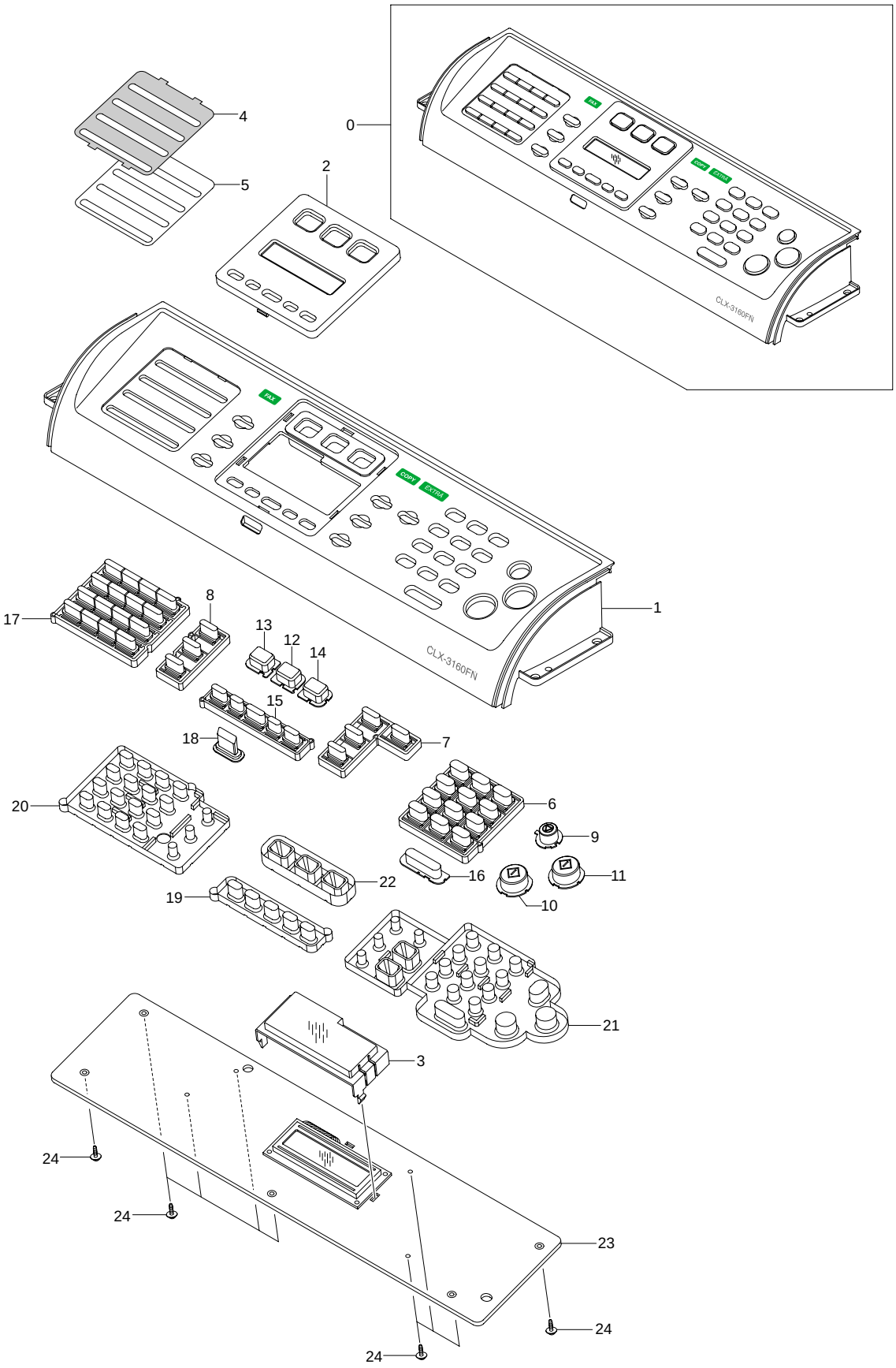
8.7 Cover Platen



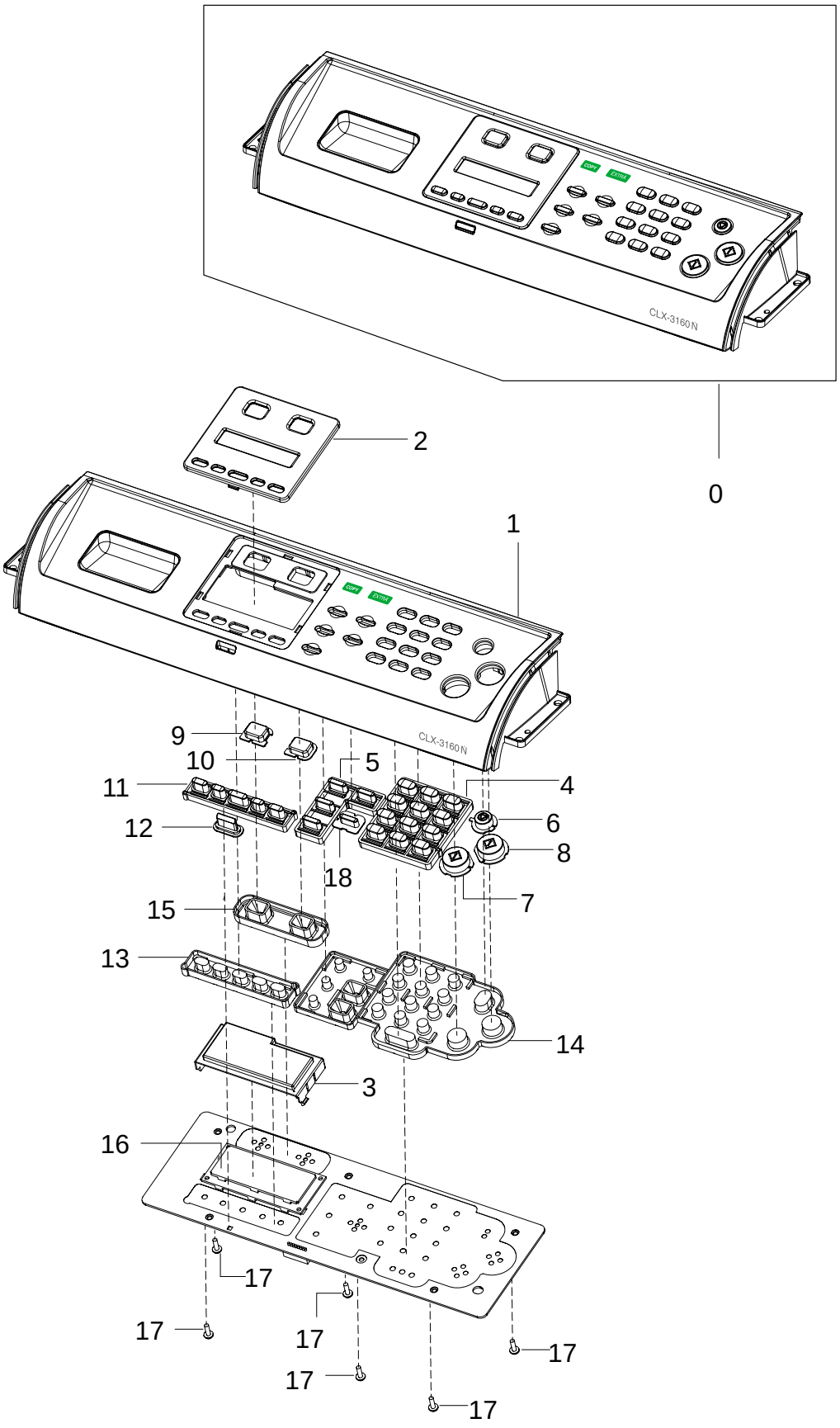
8.8 Platen Ass'y



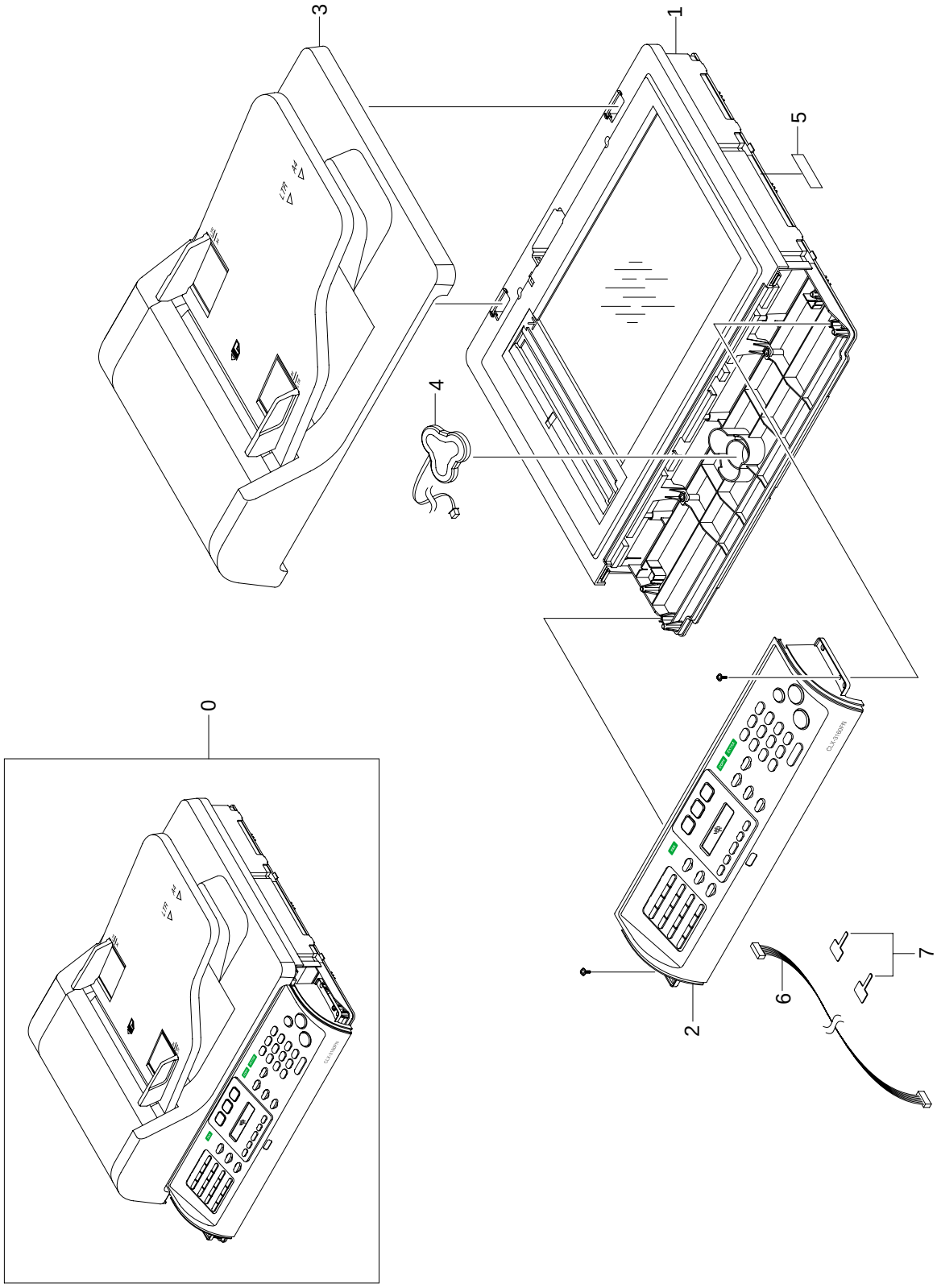
8.9 OPE(CLX-3160FN)



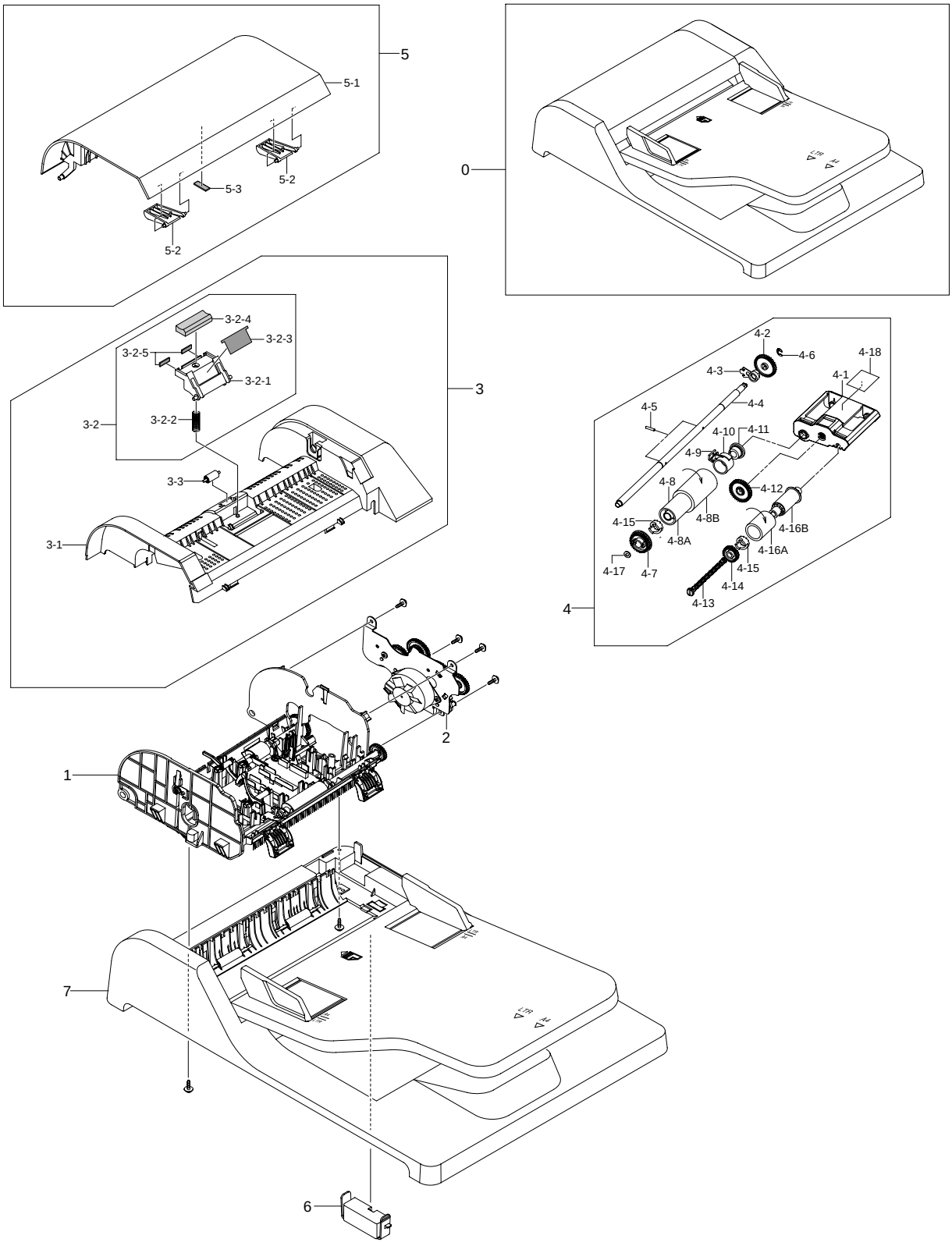
8.9 OPE(CLX-3160N)



8.10 Scan Ass'y



8.11 ADF Ass'y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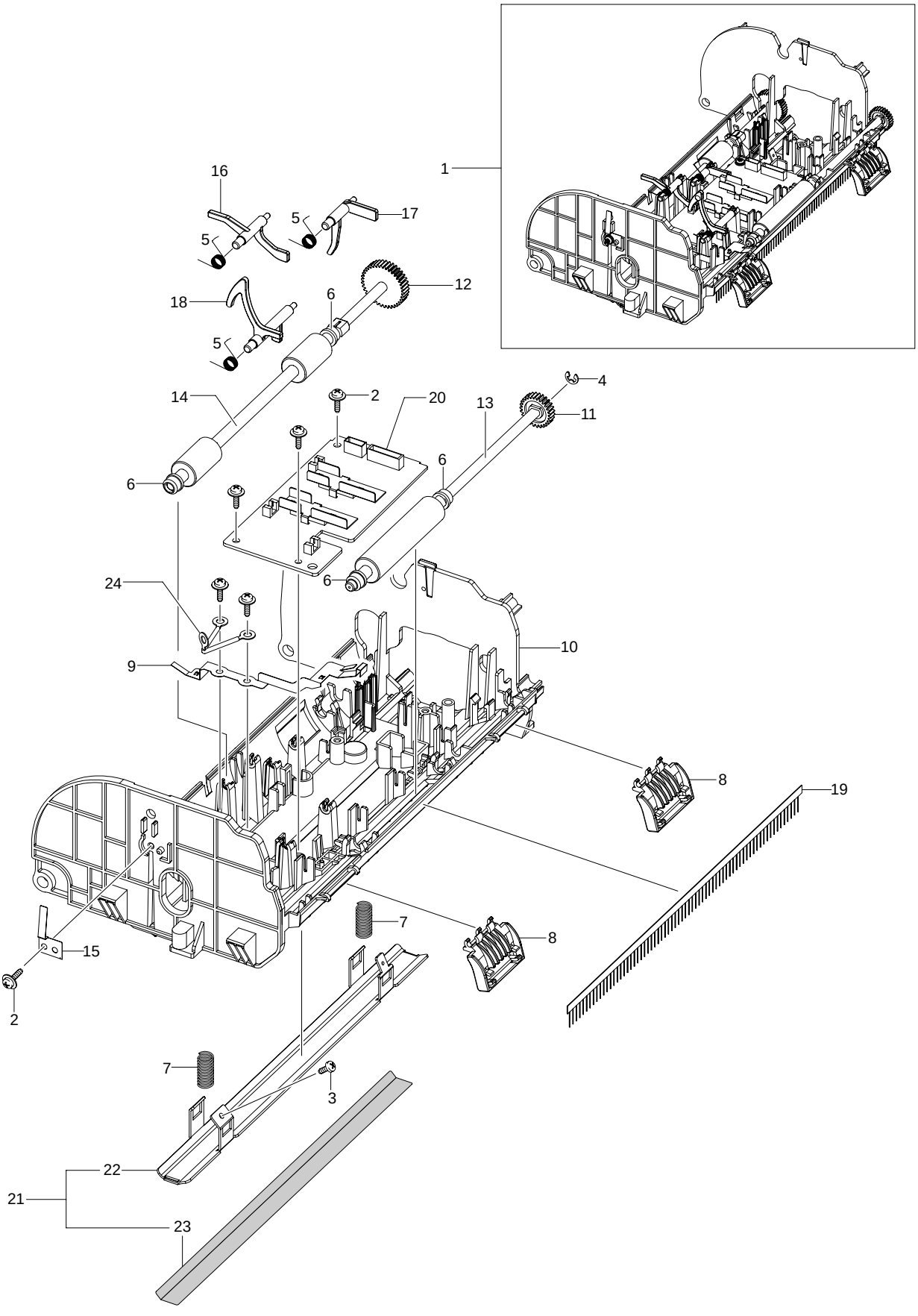
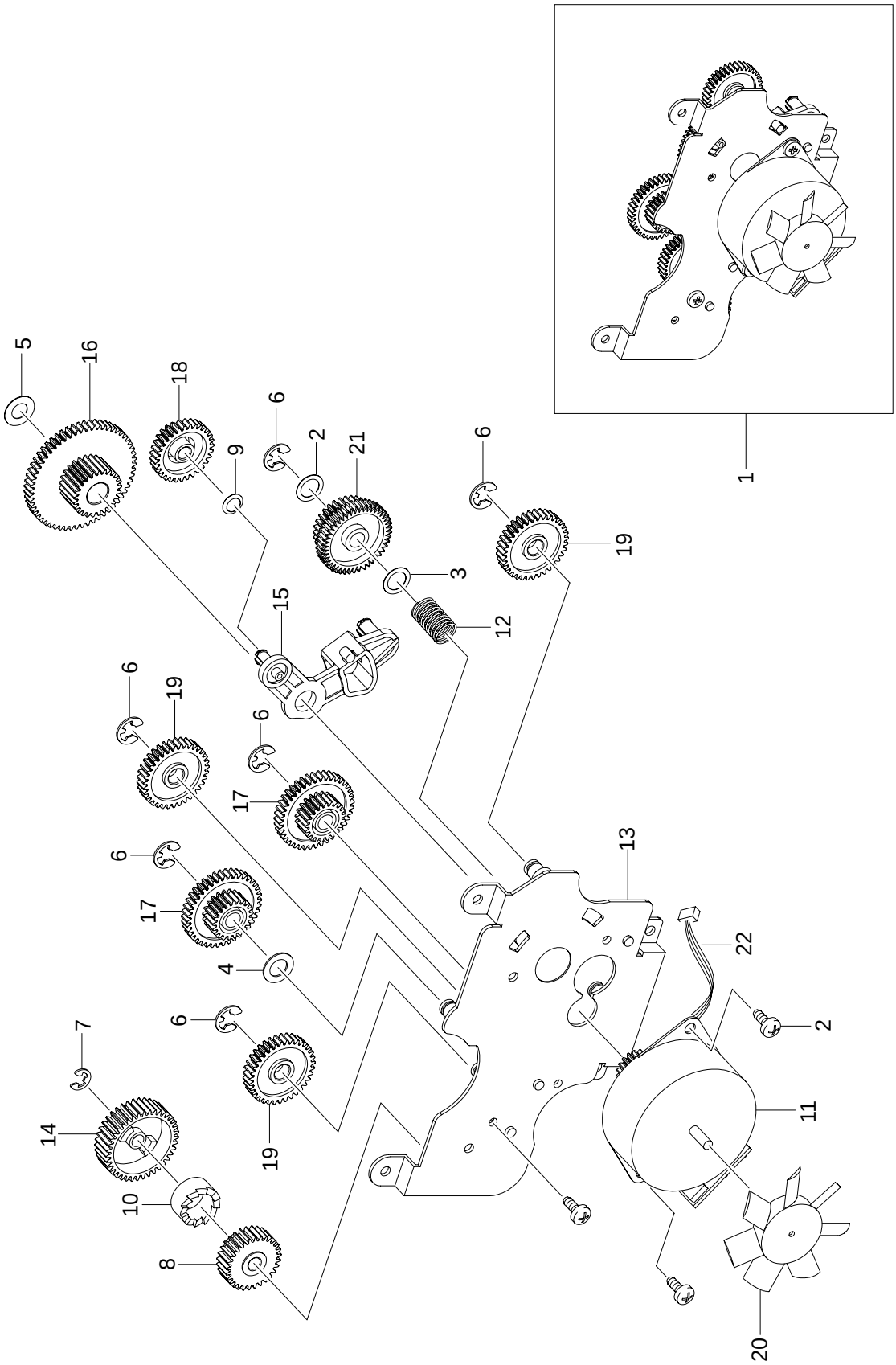
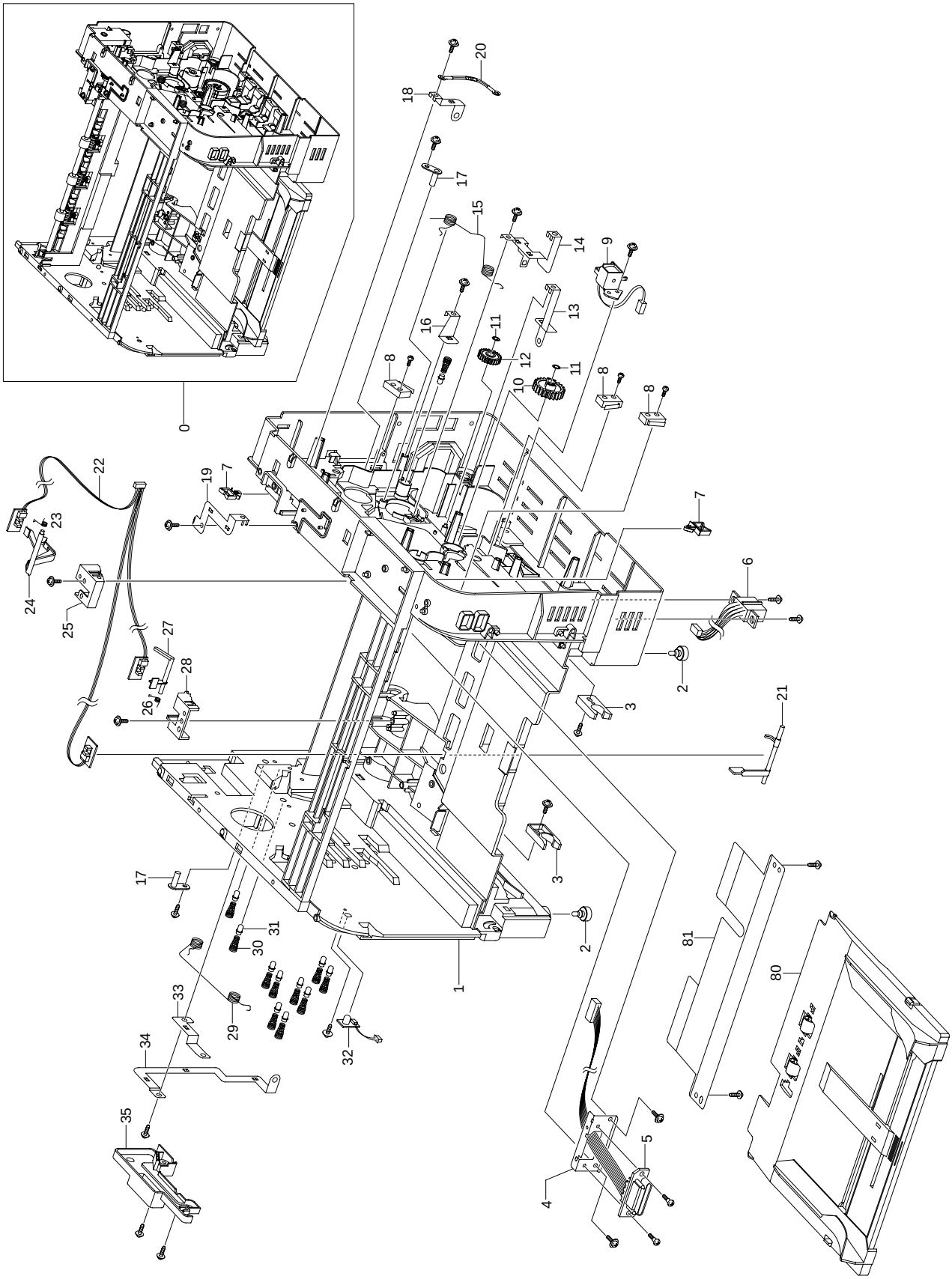
8.12 ADF Lower



8.13 ADF Motor



8.14 Frame-1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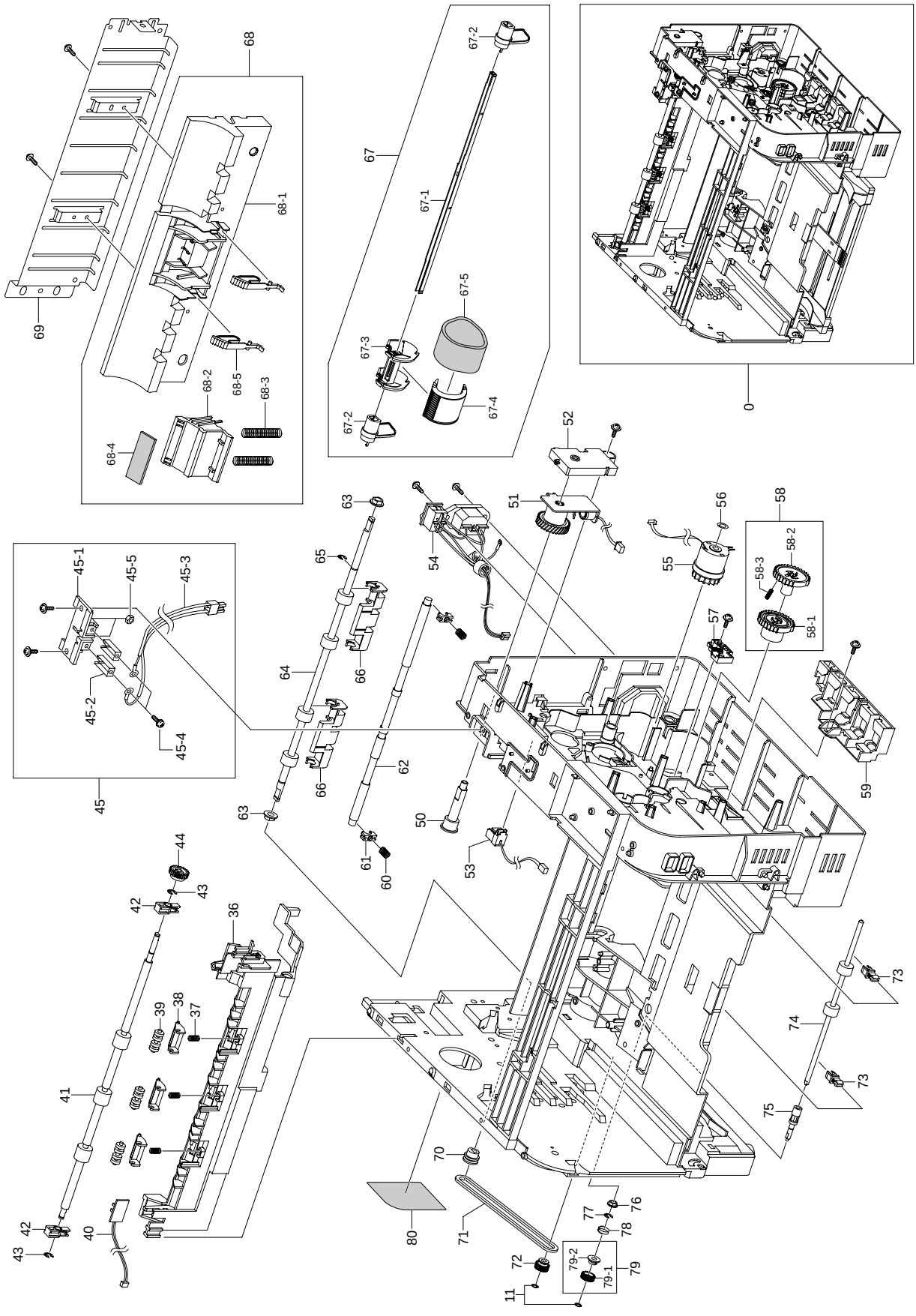
Frame-2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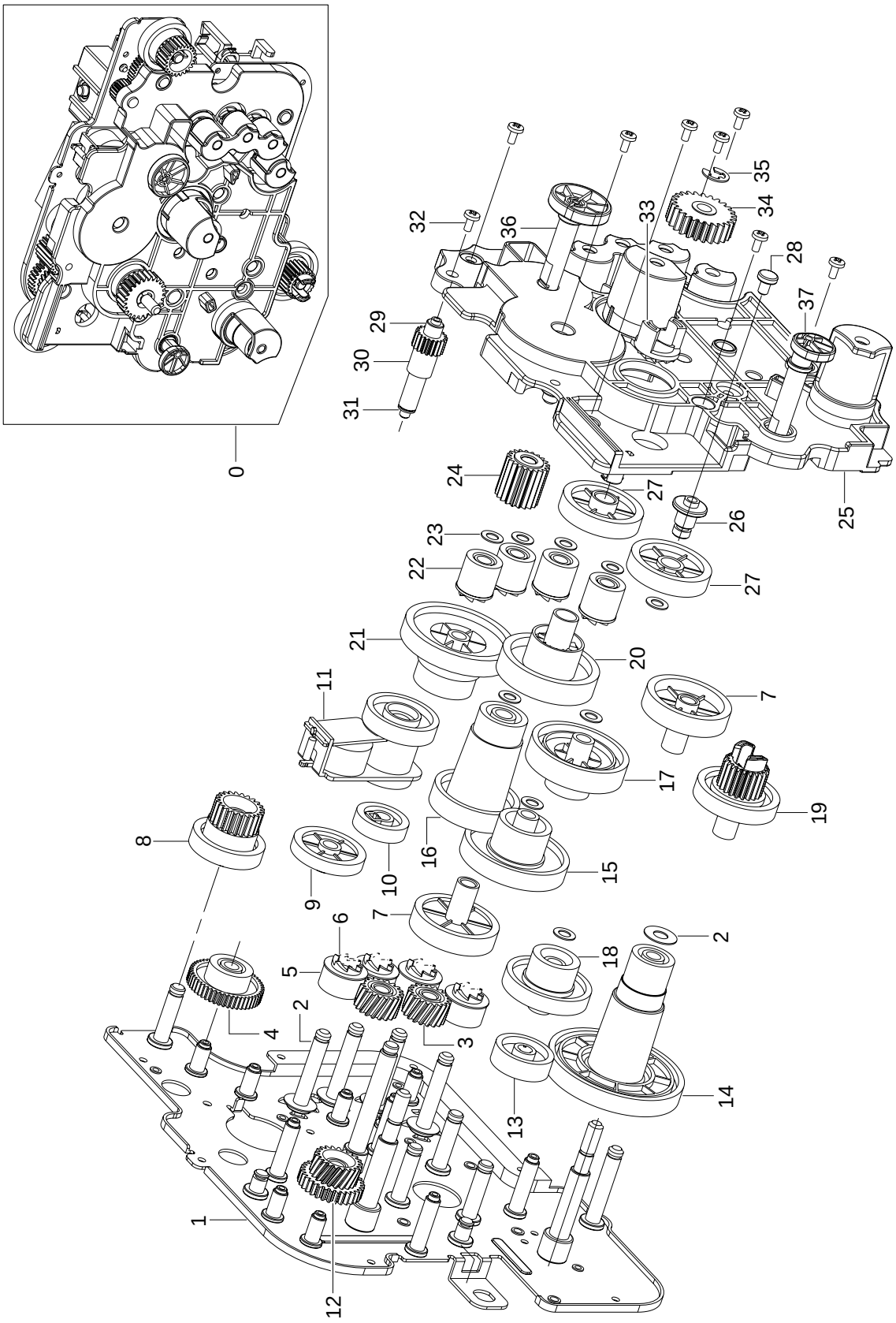
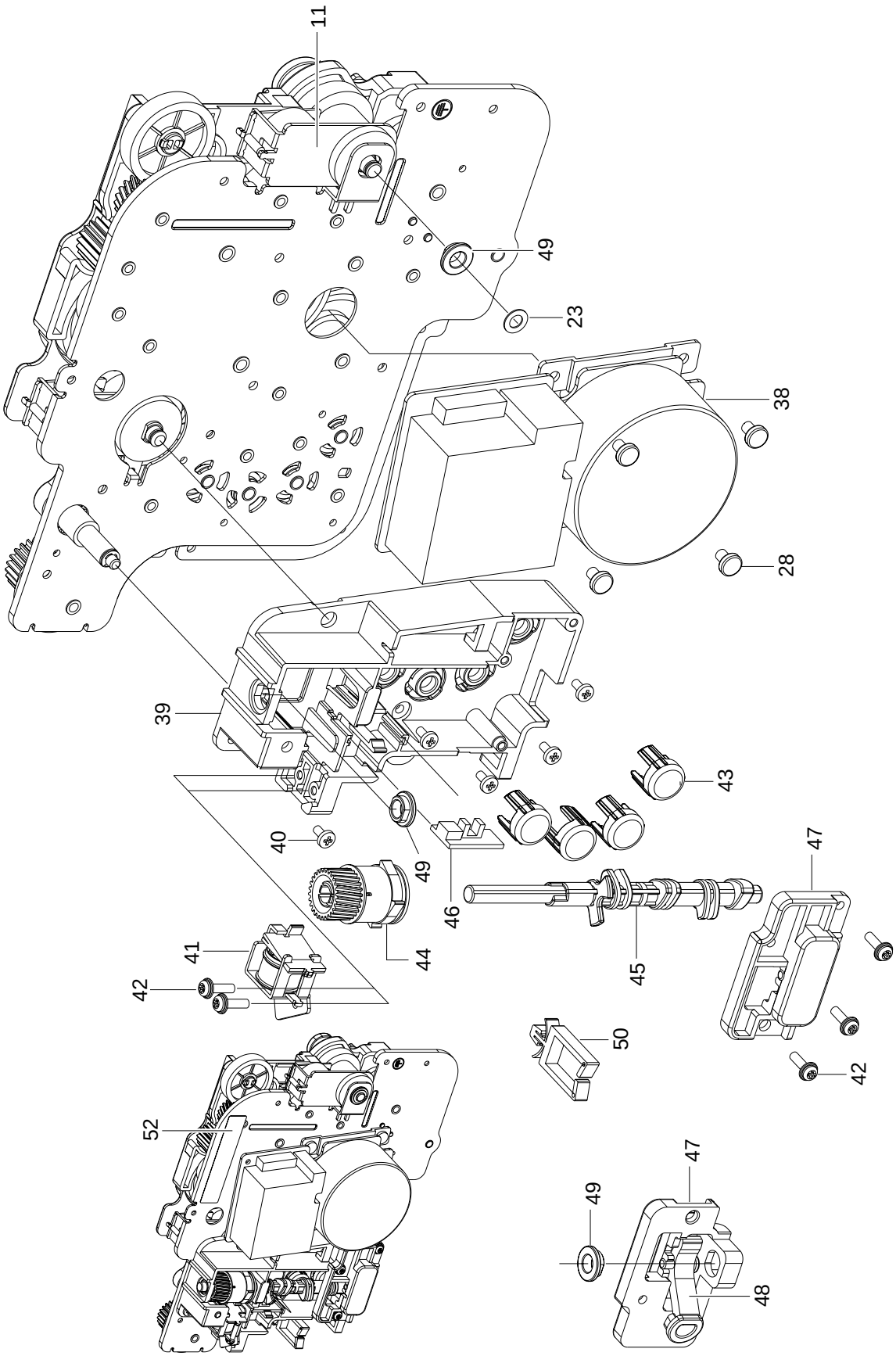
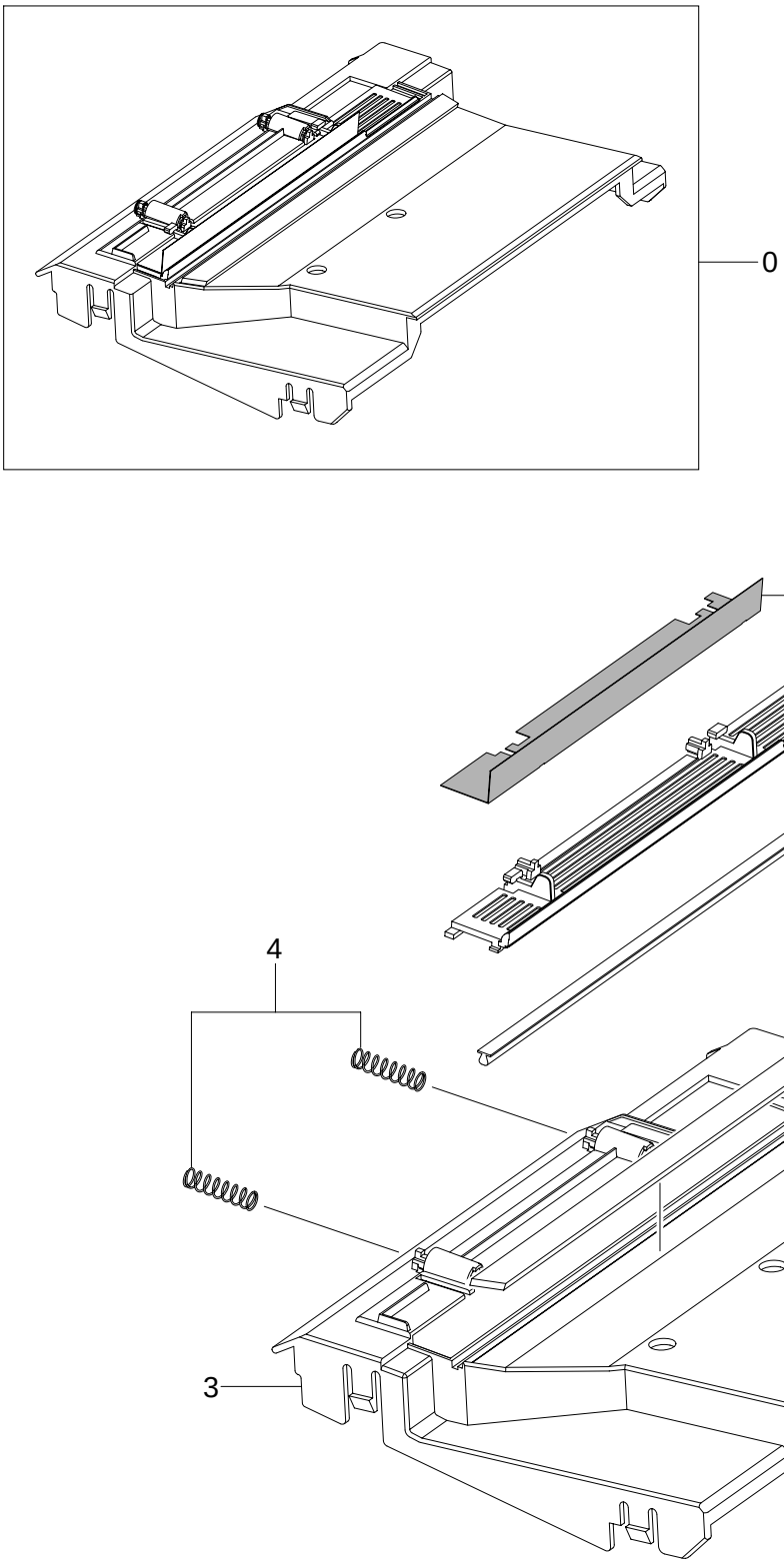
8.15 Main Driver-1



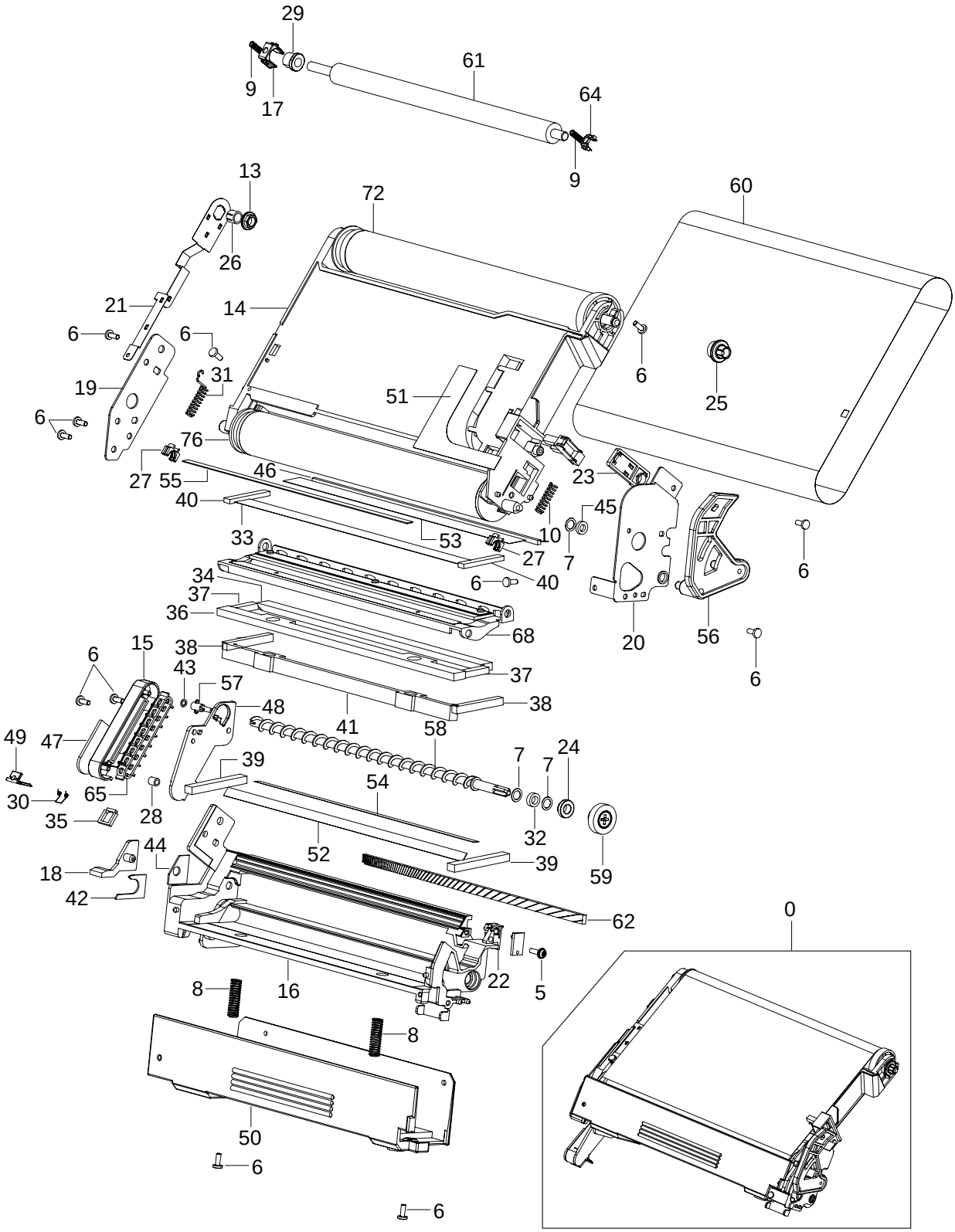
Main Driver-2



8.16 LSU Cover



8.17 ITB Unit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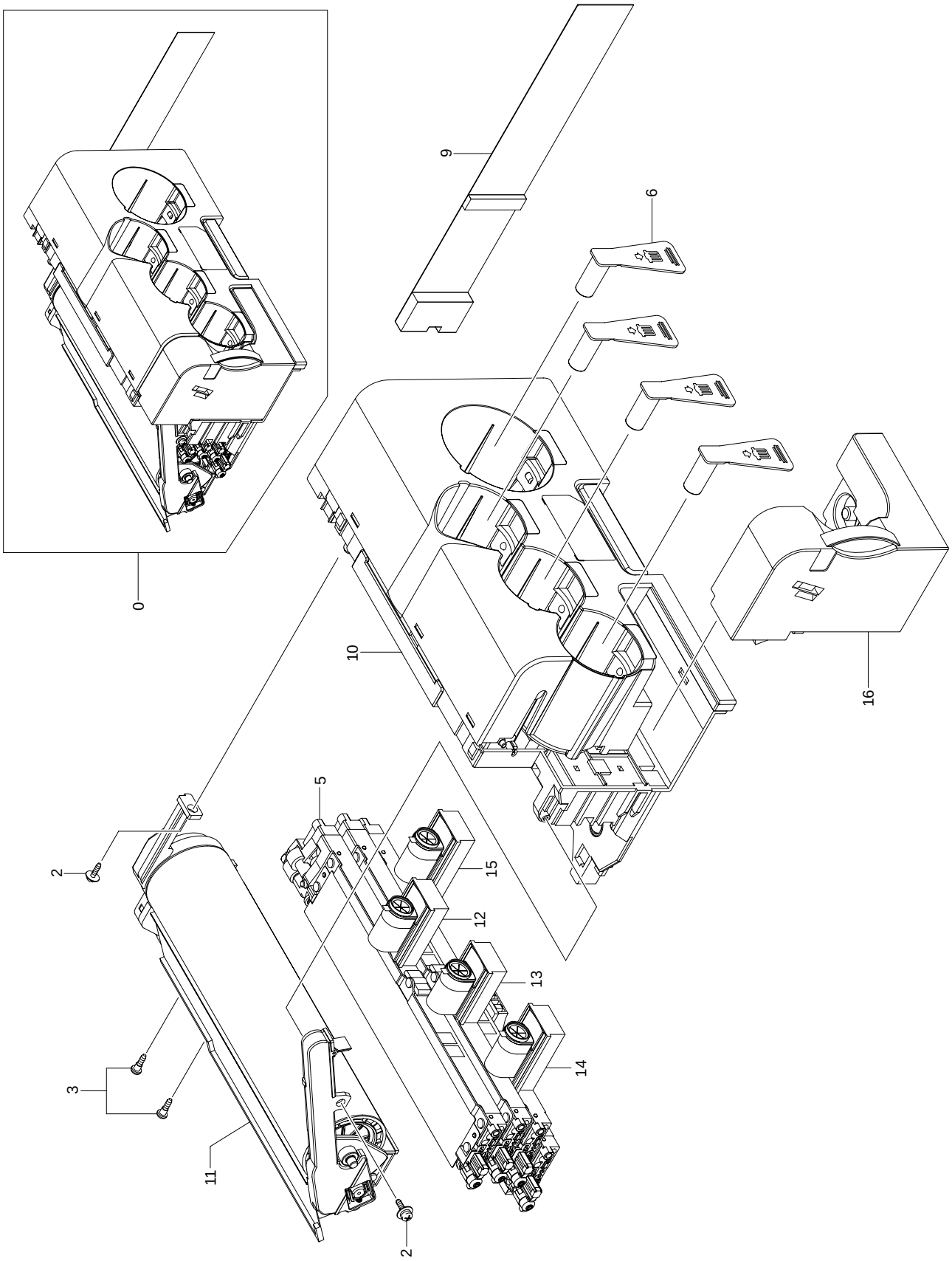
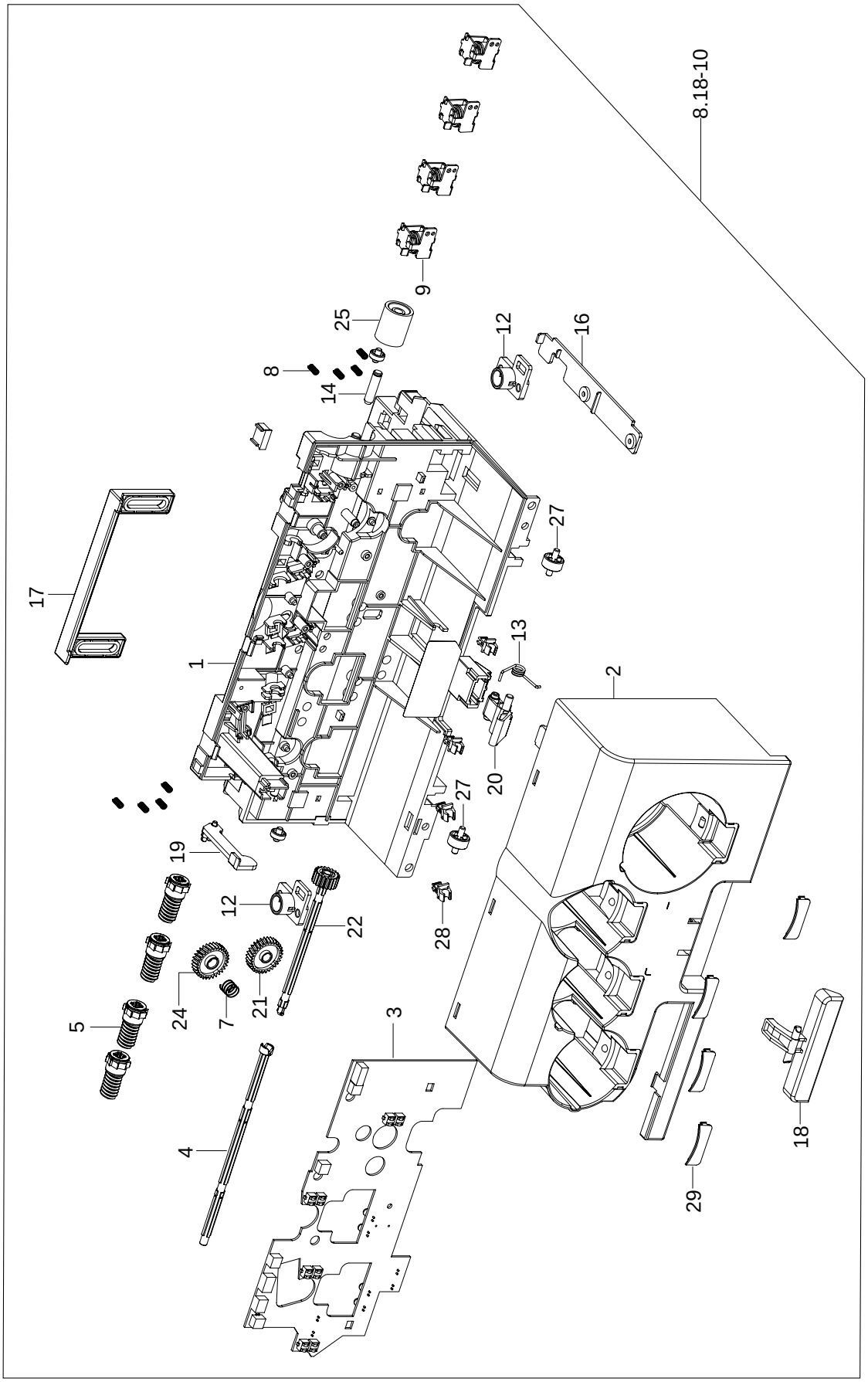
8.18 OPC DEVE

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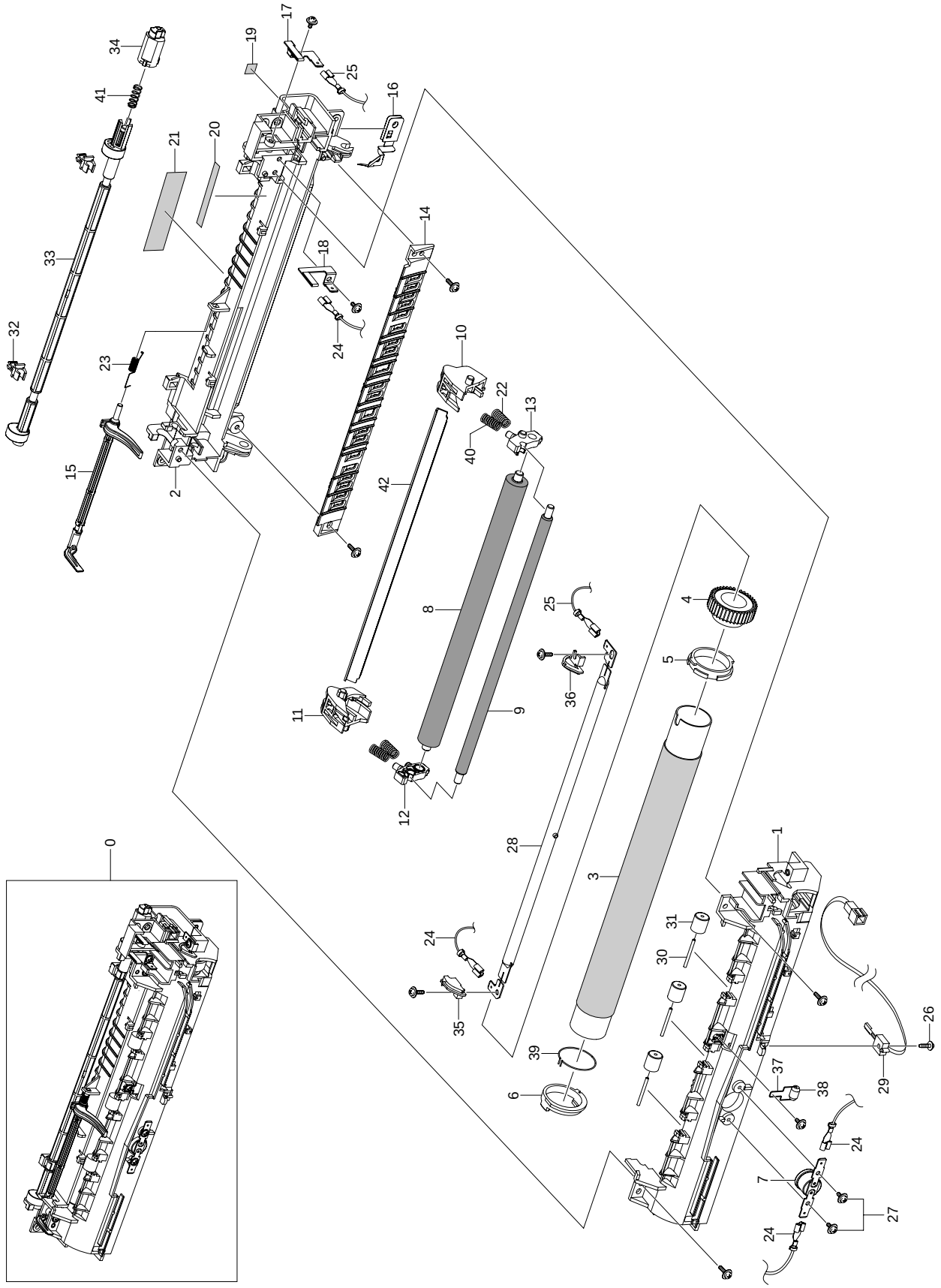
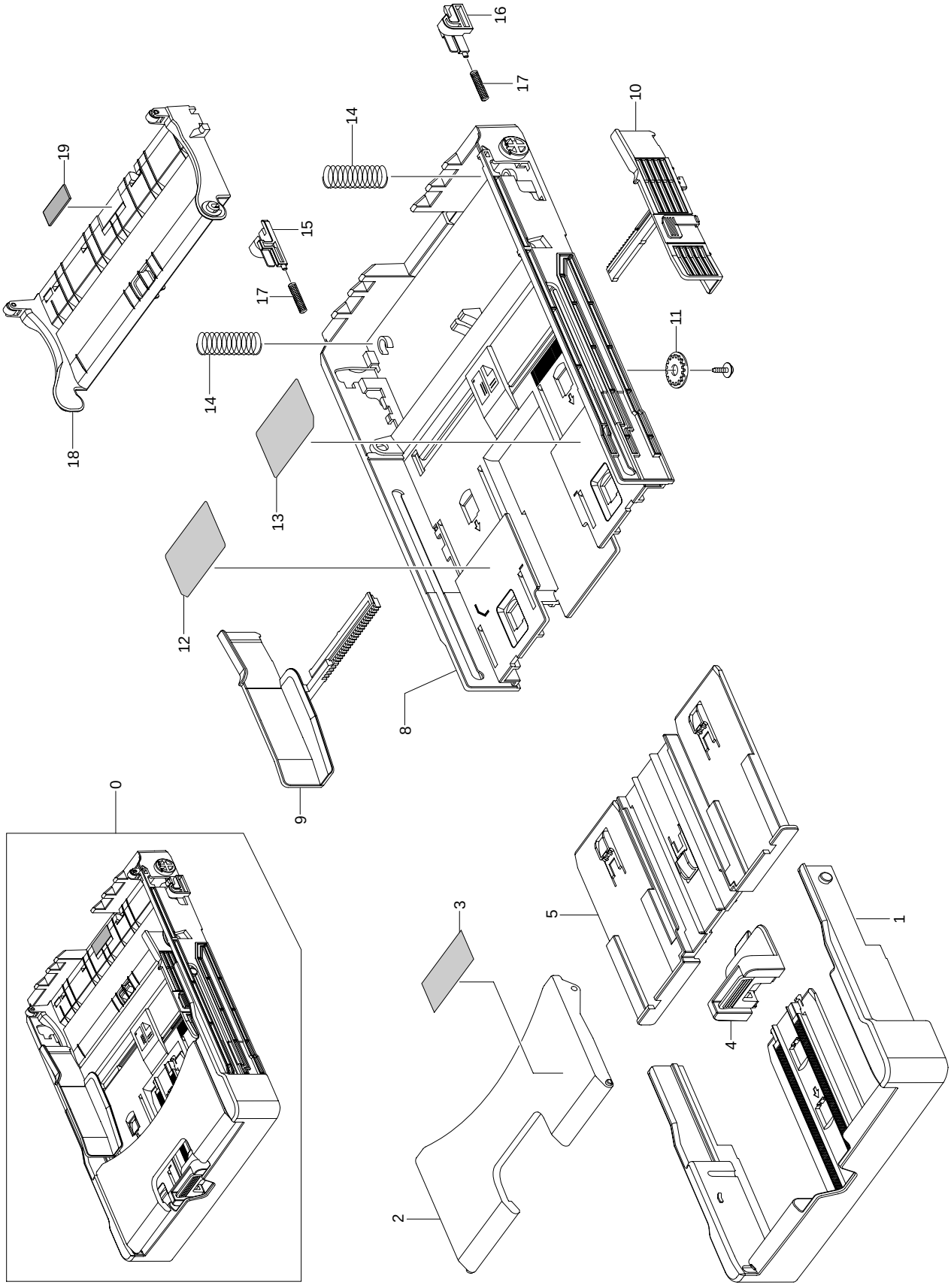
8.19 Fuser Ass'y



8.20 Cassette



Service Parts List (Model code : CLX-3160FN/XAA)

SA : SERVICE AVAILABLE SNA : SERVICE not AVAILABLE DNA : DELIVERY not AVAILABLE

Drawer#	SEC-Code	Description & Specification	Location	Service
8.1-1	JC97-02683A	MEA UNIT-FRAME;CLX-3160FN,SEC,WORLD,-,-,		SA
8.1-2	JC96-03929A	ELA HOU-SCAN_4IN1;CLX-3160FN/XAA,SEC,-,4		SA
8.1-3	JC96-04089A	ELA UNIT-COVER MIDDLE;CLX-3160FN,SEC,WOR		SA
8.1-4	JC97-02690A	MEA UNIT-COVER ROUND;CLX-3160FN,SEC,WORL		SA
8.1-5	JC92-01707D	PBA MAIN-CONT_FN;CLX-3160,SEC,KOREA,NETW		SA
8.1-6	JC96-03608A	ELA UNIT-DRIVE MAIN;CLP-300,SEC,WORLD,-,	Z4403	SA
8.1-7	JC96-03610A	ELA UNIT-OPC DEV_SET;CLP-300,SEC,EXPORT,	Z4496	SNA
8.1-8	JC96-03611A	ELA UNIT-ITB_SET;CLP-300,SEC,WORLD,SET,-	Z4404	SA
8.1-9	JC97-02615A	MEA UNIT-DEV C;CLP-300,SEC,EXPORT,-,-,-,	Z4625	SNA
8.1-10	JC97-02614A	MEA UNIT-DEV M;CLP-300,SEC,EXPORT,-,-,-,	Z4624	SNA
8.1-11	JC97-02613A	MEA UNIT-DEV Y;CLP-300,SEC,EXPORT,-,-,-,	Z4623	SNA
8.1-12	JC97-02616A	MEA UNIT-DEV K;CLP-300,SEC,EXPORT,-,-,-,	Z4626	SNA
8.1-13	JC97-02332A	MEA-UNIT CASSETTE;CLP-300,SEC,WORLD,-,-,	Z4405	SA
8.1-14	JC63-01023A	COVER-M-LEFT;CLX-3160FN,PC-ABS,T2.5,W424		SA
8.1-15	JC97-02440A	MEA UNIT-COVER REAR;CLP-300,SEC,WORLD,-,	Z4407	SA
8.1-16	JC97-02684A	MEA UNIT-COVER FRONT;CLX-3160FN,SEC,WORL		SA
8.1-17	JC97-02799A	MEA UNIT-COVER RIGHT;CLX-3160FN,-,WORLD,		SA
8.1-18	JC63-00863A	SHIELD-P-MAIN LOWER;CLP-300,SECC,T1.0,99	Z4501	SNA
8.1-19	JC44-00097A	SMPS-PSP_TYPE3_V1;SCX-4521F,*,AC/DC,-,10	D2114	SA
8.1-21	JC97-02656A	MEA UNIT-COVER LSU;CLP-300,SEC,EXPORT,-,	Z4412	SA
8.1-22	JC59-00018E	UNIT-LSU;CLP-300,-,-,STANDARD SINGLEBEAM	Z4411	SA
8.1-23	JC96-04088B	ELA UNIT-FUSER;CLX-3160FN/XAA,SEC,WORLD,		SA
8.1-24	JC61-01660A	GUIDE-M HARNESS;CLX-3160FN,ABS,5V,T2.5,W		SA
8.1-25	JC39-00496A	CBF HARNESS-LSU_GND;CLP-300,WIRE HARNESS		SA
8.1-26	JC39-00483A	CBF HARNESS-LSU;CLP-300,WIRE HARNESS,UL1		SA
8.1-27	JC39-00484A	CBF HARNESS-SMPS;CLP-300,WIRE HARNESS,UL		SA
8.1-28	3903-000085	CBF-POWER CORD;DT,US,BP3/YES,I(IEC C13/C	C0022	SA
8.1-29	JC63-00934A	COVER-M_LEFT UPPER;SCX-5530FN,HIPS,2.5,9	Z4309	SA
8.1-30	JC63-00933A	COVER-M_RIGHT UPPER;SCX-5530FN,HIPS,2.5,	Z4310	SA
8.1-31	JC63-01030A	SHIELD-P-LIU;CLX-3160FN,SECC,T0.8,W96.9,		SA
8.1-32	6103-001049	SUPPORTER;DASS-T4N,L30.8,NTR,NYLON6/6		DNA
8.1-33	JC63-01148A	SHEET-LIU;CLX-3160FN,PC,T0.5,W160,L70,TR		SA
8.1-34	JC97-02807A	MEA UNIT-LIU;CLX-3160FN,-,WORLD,-,-,-,-		SA
8.1-35	JC39-00570A	CBF SIGNAL-FAX;CLX-3160,30PIN,FFC,150MM,		SNA
8.1-37	JC39-00486A	CBF HARNESS-BLDC;CLP-300,WIRE HARNESS,UL		SA
8.1-38	JF39-50094B	CBF LINE CORD;MINI FAX,-,-,IVR,-	Z4186	SA
8.1-38	JC97-02619A	MEA UNIT-TONER WASTE;CLP-300,SEC,EXPORT,	Z4627	SNA
Replacement	JC69-00960A	BOX-MAIN;CLX-3160FN,OFFSET4,A-1,638,610,		SA
Replacement	JC92-01746A	PBA SUB-MODEM;SCX-5530FN,-,-,-,-,-,-,114	Z4299	SA
8.2-1	JC63-01027A	COVER-M-MIDDLE;CLX-3160FN,HIPS,T2.5,W420		SA
8.2-2	3001-001591	SPEAKER;0.4W,8OHM,87DB,480HZ		SA
8.2-3	6003-000196	SCREW-TAPTITE;PWH,+,B,M3,L10,NI PLT,SWRC	Z4397	SA
8.2-3	6003-000152	SCREW-TAPTITE;PH,+,B,M2,L10,ZPC(YEL),SWR	Z4442	SA
8.2-3	6003-000261	SCREW-TAPTITE;BH,+,B,M3,L6,ZPC(YEL),SWRC	Z4603	SNA
8.2-3	6002-000308	SCREW-TAPTITE;PH,+,B,M2.6,L6,ZPC(YEL),SW	Z4443	SA
8.2-4	JC66-01221A	LEVER-M ACT OUTFULL;CLX-3160FN,PC,D4.5,W		SNA
8.2-5	0604-001095	PHOTO-INTERRUPTER;TR,90%,150mW,DIP-4,BK	P0013	SA
8.2-5	0604-001154	PHOTO-INTERRUPTER;TR,0.2-1.0MA,80MW,DIP,	P0012	SA
8.2-6	JC63-00944A	COVER-M_STACKER RX;SCX-5530FN,HIPS,2.5,7	Z4312	SA
8.2-7	JC31-00027C	FAN;-,CLX-3160FN,-,-,225MM*2PIN		SA
8.2-8	JC66-01220A	LEVER-M STACKING;CLX-3160FN,PC,D4.0,-,L4		SNA
8.2-9	JC61-01656A	GUIDE-M-OUTPUT FUSER;CLX-3160FN,PET+GF30		SA

SA : SERVICE AVAILABLE SNA : SERVICE not AVAILABLE DNA : DELIVERY not AVAILABLE

Drawer#	SEC-Code	Description & Specification	Location	Service
8.2-10	JC63-01025A	COVER-M-JAM;CLX-3160FN,HIPS,T2.5,W243.1,		SA
8.2-11	JC92-01636A	PBA SUB-USB HOST;SCX-4720F,SEC,-,USB HOS	L0439	SA
8.2-12	JC39-00571A	CBF HARNESS-USB_HOST;CLX-3160,WIRE HARNE		SA
8.2-13	JC68-01760A	LABEL-INFORMATION;ML-4550,SEC,ART PAPER		SNA
8.2-14	JC39-00564A	CBF HARNESS-BIN_FULL;CLX-3160,WIRE HARNE		SA
8.3-1	JC63-01022A	COVER-M-FRONT;CLX-3160FN,HIPS,T2.5,W461.		SA
8.3-2	JC68-01732A	LABEL-INSTRUCTION;CLX-3160FN,-,PP150G,15		SNA
8.3-2	JC68-01684A	LABEL-INSTRUCTION;SCX-5530FN,SEC,YUPO PA		SNA
8.4-1	JC63-01024A	COVER-M-RIGHT;CLX-3160FN,PC + ABS,T2.5,W		SA
8.4-2	JC63-01174A	COVER-M-RIGHT-GRILL;CLX-3160FN,PC+ABS,2.		SNA
8.5-1	JC63-01026A	COVER-M-REAR_MFP;CLX-3160FN,HIPS,T2.5,W4		SA
8.5-2	JC67-00160A	CAP-NETWORK;CLP-300,EPDM,T4.5,20.5,20,G3		SNA
8.6-1	JC63-00844A	COVER-M-REAR;CLP-300,ABS,T3.0,249.3,296.	Z4514	SNA
8.6-2	JC64-00215A	BUTTON-M-OPEN REAR;CLP-300,ABS FR V0,80.	Z4515	SNA
8.6-3	JC66-01089A	SHAFT-P-LOCKBAR REAR;CLP-300,SECC,284,6,	Z4516	SNA
8.6-4	JC61-01461A	HOLDER-M-HOOK REAR R;CLP-300,POM,T5.0,19	Z4517	SNA
8.6-5	JC61-01456A	HOLDER-M-HOOK REAR L;CLP-300,POM,T5.0,19	Z4518	SNA
8.6-6	JC61-01462A	HOLDER-M-HOOK REAR C;CLP-300,POM,T5.0,19	Z4519	SNA
8.6-7	JC66-01071A	LEVER-M-REAR LOCK;CLP-300,HIPS,T2.5,55.1	Z4520	SNA
8.6-8	6107-001268	SPRING-TS;SUS304 WPB,-,PI0.9,D8.9,L7,-,-	Z4419	SA
8.6-8	6107-001283	SPRING-TS;SWRS82A,-,1.0X0.6,D13.70,L12.1	Z4420	SA
8.6-8	6107-001284	SPRING-TS;SWRS82A,-,0.75X0.5,-,L8.4,-,-,	Z4521	SNA
8.6-9	6002-000440	SCREW-TAPPING;PWH,+,-,2,M3,L8,ZPC(BLK),S	Z4418	SA
8.6-10	JC96-03990A	ELA UNIT-TRANSFER;CLP-300,SEC,EXPORT,-,-	Z4421	SA
8.7-1	JC97-02406A	MEA-TX STACKER;SCX-5530FN,SEC,-,-,-,-,-	Z4345	SA
8.7-1-1	JC63-00988A	COVER-M_STACKER TX;SCX-5530FN,HIPS,-,266		SNA
8.7-1-2	JC61-01609A	GUIDE-M_DOCU L;SCX-5530FN,HIPS,-,128.5,6		SNA
8.7-1-3	JC61-01610A	GUIDE-M_DOCU R;SCX-5530FN,HIPS,-,128,60,		SNA
8.7-1-4	JF70-10616A	IPR-WASHER SPRING CU;CF3400,SUS301-CSP,-	Z4346	SA
8.7-1-5	JG66-40003A	GEAR-PINION;SF4000,POM,WHT,M1,Z16	O1127	SA
8.7-2	JC63-00984A	COVER-M_PLATEN;SCX-5530FN,ABS,-,339.03,4		SNA
8.7-3	JC63-00209B	SHEET-WHITE SPONGE;SCX-4216F,SPONGE+SHEE		SA
8.7-4	JC97-02779A	MEA UNIT-HINGE;SCX-5330N,-,-,ELBERT,-,-,	Z4347	SA
8.7-5	JC61-00011A	SPRING ETC-FEED;SF-5100,SUS304WPB,0.6,-,	Z4348	SA
8.7-6	JF70-40521B	ICT-SHAFT PINCH;FX2200,STSC304WPA,-,D2.6	Z4349	SA
8.7-7	JG72-40663A	PMO-ROLL PINCH;SF5500,POM(DERLIN 500P),B	Z4350	SA
8.7-8	JC66-00909A	SHAFT-IDLE FEED;SCX-4521F,SUS303F,59.5,2	Z4351	SA
8.7-9	JC66-00728A	ROLLER-ADF FEED;SCX-4920N,POM + EPDM,-,-	Z4352	SA
8.8-0	JC96-03917A	ELA HOU-PLATEN;CLX-3160FN/XAA,SEC,-,-,-,		SA
8.8-1	JC97-02412A	MEA-SCAN UPPER;SCX-5530FN,SEC,-,-,-,-,-	Z4324	SA
8.8-1-1	JC97-02429A	MEA UNIT-SCAN DUMMY;SCX-5530FN,SEC,-,-,-	Z4325	SA
8.8-1-1-1	JC63-00152F	COVER-M_SCAN DUMMY;SCX-5530FN,HIPS,-,63.	Z4326	SA
8.8-1-1-2	JC74-00021A	MCT-GLASS ADF;SCX-4216F,GLASS,238.4*19.1	G1009	SA
8.8-1-1-3	0203-001744	TAPE-DOUBLE FACE;3M9495MP,-,T0.12,W3,L22		SNA
8.8-1-1-4	JC02-00013A	TAPE ETC-DOUBLE TAPE SMALL;9448HK,DOUBLE		SNA
8.8-1-1-5	JB68-00644A	LABEL(P)-SHADING;COMMON,YOOPO PAPER ,T0.	Z4177	SA
8.8-1-1-6	0203-001266	TAPE-DOUBLE FACE;3M9448HK,T0.16,W4,L280,		SNA
8.8-1-2	JC63-00990A	COVER-M_SCAN UPPER;SCX-5530FN,ABS,-,330.		SNA
8.8-1-3	JC01-00001A	GLASS-SCAN;329.9*247.5,2.8,-	G1004	SA
8.8-1-4	0203-001267	TAPE-DOUBLE FACE;3M9448HK,T0.16,W8,L280,		SNA
8.8-1-5	JB70-00148A	IPR-HOLDER GLASS;SCX-1110/XRX,SUS304,-,1	Z4327	SA
8.8-2	JC96-03918A	ELA HOU-SCAN LOWER;CLX-3160FN/XAA,SEC,-,		SA
8.8-2-1	JC63-00989B	COVER-M_SCAN LOWER;CLX-3160FN,ABS,T2.5,W		SNA
8.8-2-2	JC96-03069A	ELA HOU-SCAN MOTOR;SCX-4920N,DELL,-,SCAN	M2043	SA
8.8-2-2-1	JC61-00895A	BRACKET-SCAN MOTOR R2;SCX-4920N,PC GF10%	Z4328	SA
8.8-2-2-2	JC66-00531A	GEAR-TIMING;SCX-6320F,POM(M90-44),M0.5,Z	G0434	SA

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8.8-2-2-3	JB72-00764A	PMO-HOLDER BELT;SCX-1110/XRX,-,POM,WHT,-	Z4329	SA
8.8-2-2-4	6044-000125	RING-E;ID4,OD9,T0.6,PASS,STSC	R0004	SA
8.8-2-2-5	JB66-00083A	GEAR-IDLE;SCX-1110/XRX,POM,0.5,31,-,WHT,	Z4330	SA
8.8-2-2-5	JC66-01108A	GEAR-IDLE;CLP-300,POM DE8903,M0.6/M0.5,Z		SNA
8.8-2-2-6	JC66-00530A	GEAR-REDUCTION73/37;SCX-6320F,POM(M90-44	G0412	SA
8.8-2-2-7	JB31-00011A	MOTOR STEP-SCAN;M42SP-4TKC,SCX-1110/XRX,	Z4331	SA
8.8-2-3	JC96-03819A	ELA HOU-CCDM_2905;SCX-5525DN,-,-,-,-,-,-	Z4332	SA
8.8-2-4	JB70-00145A	ICT-SHAFT CCD;SCX-1110/XRX,SUM24L,8,-,-		SNA
8.8-2-5	JC39-00569A	CBF SIGNAL-CCD;CLX-3160,24PIN,FFC,770mm,		SNA
8.8-2-6	JB72-00763A	PMO-PULLEY;SCX-1110/XRX,-,POM,WHT,-,-,-	Z4334	SA
8.8-2-7	6602-001067	BELT-TIMING GEAR;HIBER GLASS,T3.2,T80-40	Z4335	SA
8.8-2-10	JB61-00059A	SPRING ETC-BELT;SCX-1110/XRX,SUS304WP,¥Õ	B2030	SA
8.8-2-11	6107-001135	SPRING-CS;SUS304 WPB,-,PI0.3,-,L14,-,-,I	Z4336	SA
8.8-2-11	6107-001306	SPRING-CS;SUS304-WPB,-,PI0.55,D6.45,L11,	Z4507	SA
8.8-2-11	6107-001309	SPRING-CS;SWP-B,-,PI0.5,-,L10,-,-,ID4.0,		SNA
8.8-2-11	6107-001278	SPRING-CS;SUS304 WPB,-,PI0.7,D6.9,L20,-,	Z4416	SA
8.8-2-11	6107-001282	SPRING-CS;C5210W,-,PI0.6,-,L12.5,-,-,ID3	Z4456	SA
8.8-2-11	6107-001288	SPRING-CS;SUS304-WPB,-,PI0.35,D3.55,L12,	Z4631	SNA
8.8-2-11	6107-001303	SPRING-CS;SWP-B,-,PI1.3,-,L45.5,-,-,ID4.		SNA
8.8-2-12	JC72-00755A	PMO-LEVER SENSOR;SCX-5100,POM,BLK,-,-,HB	L4074	SA
8.8-2-14	JC39-00563A	CBF HARNESS-COVE_OPEN;CLX-3160,WIRE HARN		SA
8.8-2-16	JB96-01381A	ELA UNIT-CORE;SCX-1100,SAMSUNG,CORE ASS'	Z4339	SA
8.8-2-16-1	3301-001413	CORE-FERRITE;AD,33x12x7mm,1500,2800Gauss	Z4340	SA
8.8-2-16-2	JB68-00705A	LABEL(R)-DOUBLE CORE;COMMON,-,-,-,-,COMP		SNA
8.8-2-17	JC39-00648A	HARNESS-B_FULL;CLX-3160,HARNESS,UL1061,4		SA
8.8-2-18	JC61-00894B	HOLDER-M_CCD;SCX-4720F/XRX,HIPS,2,43.6,3	Z4342	SA
8.8-2-19	JC39-00566A	CBF HARNESS-DRAW_JOIN;CLX-3160,WIRE HARN		SA
8.8-2-20	JB70-00154A	ICT-INSERT SHAFT;SCX-1110/XRX,SUM24L,5,-		SNA
8.8-2-21	JC68-01702A	LABEL-CAUTION;SCX-5530FN,-,WHITE PET,0.0		SNA
8.8-2-21	JC68-01825A	LABEL-CAUTION;CLP-300,SEC,WHITE POLY,-,W		SNA
8.8-2-22	JC92-01798A	PBA SUB-JOINT;CLX-3160,SEC,KOREA,IRIS,-,		SA
8.8-2-23	JC39-00485A	CBF HARNESS-HVPS;CLP-300,WIRE HARNESS,UL		SA
8.8-2-24	JC39-00567A	CBF HARNESS-SYS_GND;CLX-3160,WIRE HARNES		SA
8.9-0	JC96-03913A	ELA HOU-OPE 4IN1;CLX-3160FN/XAA,SEC,-,-,		SA
8.9-1	JC63-01020A	COVER-M-OPE 4IN1;CLX-3160FN,HIPS,T2.5,W4		SA
8.9-2	JC63-00991A	COVER-M_NEVI;SCX-5530FN,HIPS,2,82.6,87.8		SNA
8.9-3	JC63-00993A	COVER-M_LCD;SCX-5530FN,PC,1,86.6,39,-,-,	Z4391	SA
8.9-4	JC63-00999A	SHEET-ONETOUCH;SCX-5530FN,PC ,0.38T,66.5		SNA
8.9-5	JC68-01639A	LABEL-ONETOUCH;SCX-5530FN,SEC,ART PAPER,		SNA
8.9-6	JC64-00239A	KEY-M_TEL;SCX-5530FN,ABS,60.2*66.1*14.5,		SNA
8.9-7	JC64-00240A	KEY-M_COPY;SCX-5530FN,ABS,55*46.6*14,HB,		SNA
8.9-8	JC64-00241A	KEY-M_FAX;SCX-5530FN,ABS,22.8*55*14,HB,D		SNA
8.9-9	JC64-00242A	KEY-M_STOP CLEAR;SCX-5530FN,HIPS,18.6*8.		SNA
8.9-10	JC64-00243B	KEY-M_START BLACK;CLX-3160FN,HIPS,19.1*1		SNA
8.9-11	JC64-00259A	KEY-M-START COLOR;CLX-3160FN,HIPS,19.1*1		SNA
8.9-12	JC64-00245A	KEY-M_MODE COPY;SCX-5530FN,PMMA,16.4*20.		SNA
8.9-13	JC64-00246A	KEY-M_MODE FAX;SCX-5530FN,PMMA,16.4*20.4		SNA
8.9-14	JC64-00247A	KEY-M_MODE SCAN;SCX-5530FN,PMMA,16.4*20.		SNA
8.9-15	JC64-00248A	KEY-M_MENU;SCX-5530FN,ABS,84.2*16.5*15.5		SNA
8.9-16	JC64-00249A	KEY-M_ON HOOK;SCX-5530FN,ABS,37.8*11.3*7		SNA
8.9-17	JC64-00250A	KEY-M_ONETOUCH;SCX-5530FN,ABS,72.55*62*1		SNA
8.9-18	JC67-00148A	LENS LED-M_STATUS;SCX-5530FN,PMMA,MILKY		SNA
8.9-19	JC73-00230A	RUBBER-MENU;SCX-5530FN,SILICON,85.6*16.6		SNA
8.9-20	JC73-00231A	RUBBER-ONETOUCH;SCX-5530FN,SILICON,100.3		SNA
8.9-21	JC73-00232A	RUBBER-TEL_COPY;SCX-5530FN,SILICON,82.2*		SNA
8.9-22	JC73-00233A	RUBBER-MODE;SCX-5530FN,SILICON,71.2*20.2		SNA

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8.9-23	JC92-01747A	PBA SUB-OPE;SCX-5530FN,SEC,-,OPE,-,-,-,3	Z4392	SA
8.10-3	JC96-03919A	ELA HOU-ADF;CLX-3160FN/XAA,SEC,-,-,-,-,-		SA
8.10-4	4302-001183	BATTERY-NIH(2ND);3.6V,280MAH,LAY_PLAT.PL		SA
8.10-5	JF68-10532B	LABEL(P)-BAR CODE;CLP-500,-,YUPO PAPER,1	Z4544	SNA
8.10-6	JC39-00568A	CBF HARNESS-PANEL;CLX-3160,WIRE HARNESS,		SA
8.10-7	6502-000121	CABLE CLAMP;DAMC-101,D7~8,L19,SCP-1,NTR	Z4538	SNA
8.10-7	6502-000132	CABLE CLAMP;DAWS-1NE,ID11,L21.0,NTR,NYLO	C0069	SA
8.11-1	JC96-03916A	ELA HOU-ADF LOWER;CLX-3160FN/XAA,SEC,-,-		SA
8.11-2	JC96-03915A	ELA HOU-ADF MOTOR;CLX-3160FN/XAA,SEC,-,-		SA
8.11-3	JC97-02410A	MEA-ADF UPPER;SCX-5530FN,SEC,-,-,-,-,-		SNA
8.11-3-1	JC63-00985A	COVER-M_ADF UPPER;SCX-5530FN,HIPS,-,188.	Z4370	SA
8.11-3-2	JC97-01940B	MEA UNIT-HOLDER ADF;SCX-5530FN,-,-,-,-,-	Z4371	SA
8.11-3-2-1	JC61-00893B	HOLDER-M_PAD ADF;SCX-5530FN,POM,1.5,44.9	Z4372	SA
8.11-3-2-2	JC61-00387A	SPRING ETC-PAD;ML-9400W,SUS304WPB,PI0.5,	S0028	SA
8.11-3-2-3	JC63-00373A	SHEET-ADF HOLDER;SCX-4920,PC,0.2,18,35.4		SNA
8.11-3-2-4	JB73-00052A	RMO-ADF RUBBER;SCX-1110F,SILICON RUBBER,	Z4373	SA
8.11-3-2-5	JC66-00738A	DAMPER-PAD ADF_R2;SCX-4720F,POLY URETHAN		SNA
8.11-3-3	JC66-00461A	ROLLER-M-ADF IDLE;SCX-4114F,POM,-,-,BLK,	K4221	SA
8.11-4	JC97-01962C	MEA UNIT-PICKUP;SCX-5530FN,-,-,-,-,-,-	Z4374	SA
8.11-4-1	JC72-00734A	PMO-COVER ADF;SCX-5100,HIPS,WHT,-,-,HB,-	Z4375	SA
8.11-4-2	JB66-00103A	GEAR-ADF 38;SCX-1110F,POM(DELIN500P),0.6	Z4376	SA
8.11-4-3	JC61-00963B	STOPPER-M_PICKUP ADF;SCX-5530FN,POM,-,10		SNA
8.11-4-4	JC66-00561A	SHAFT-ADF PICKUP;SCX-4216F,SUM22L,-,7,NI	P2150	SA
8.11-4-5	JB70-00168A	ICT-PIN ADF;SCX-1110F,STS303,D2.0,-,-,-	I0001	SA
8.11-4-6	6044-000159	RING-C;ID3,OD7,T0.6,PASS,STSC	Z4357	SA
8.11-4-7	JB66-00102A	GEAR-PICK UP IDEL 38;SCX-1110F,POM(DELIN	Z4377	SA
8.11-4-8	JB75-00300A	MEC-PICK UP ROLLER ASSY;SCX-1110F/XRX,XE	Z4378	SA
8.11-4-8A	JB72-00823A	PMO-SLEEVE PICK UP;SCX-1110F,-,POM,BLK,-	Z4379	SA
8.11-4-8B	JB73-00055A	RMO-PICKUP ROLLER;SCX-1110F/XRX,EPDM RUB		SNA
8.11-4-9	JB72-00821A	PMO-ADF COLAR;SCX-1110F,POM,NTR,-,-,-,-	Z4380	SA
8.11-4-10	JB61-70904A	SPRING ETC-CLUTCH;AMUNDSEN,SWRS82A,D11.4	Z4381	SA
8.11-4-11	JB72-00817A	PMO-ADF CLUTCH;SCX-1110F,POM,WHT,-,-,-,-	Z4382	SA
8.11-4-12	JB66-00104A	GEAR-ADF IDLE 34;SCX-1110F,POM(DELIN500P	Z4383	SA
8.11-4-13	JC72-00744A	PMO-SHAFT PICK UP;SCX-5150,-,ABS,BLK,HB,	Z4384	SA
8.11-4-14	JB66-00105A	GEAR-PICK UP 26;SCX-1110F,POM(DELIN500P)	Z4385	SA
8.11-4-15	JB72-00845A	PMO-PICK UP CLUTCH SUB;SCX-1110F,POM(F20	Z4386	SA
8.11-4-16	JB75-00299A	MEC-ADF ROLLER ASSY;SCX-1110F/XRX,XEROX,	Z4387	SA
8.11-4-16A	JB73-00054A	RMO-ADF ROLLER;SCX-1110F/XRX,EPDM RUBBER		SNA
8.11-4-16B	JB72-00822A	PMO-SLEEVE ADF;SCX-1110F,-,POM,BLK,-,-,-	Z4388	SA
8.11-4-17	6031-000023	WASHER-PLAIN;-,ID5.9,OD10.0,T0.5,BLK,POL		SNA
8.11-4-17	6031-001577	WASHER-PLAIN;POLY,-,ID5.1,OD14,T0.5,BLK,	Z4525	SNA
8.11-4-17	6031-001051	WASHER-PLAIN;M4,ID4.1,OD7.0,T0.13,*,POLY	Z4526	SNA
8.11-4-17	6031-001543	WASHER-PLAIN;POLY,-,ID5.1,OD8,T0.13,-,-	Z4527	SNA
8.11-4-17	6031-001547	WASHER-PLAIN;POLY,-,ID6.5,OD12,T0.5,-,-	Z4528	SNA
8.11-4-18	JC66-01099A	SHAFT-M-AUGER TONER Y;CLP-300,ABS GF20%		SNA
8.11-5	JC97-02411A	MEA-COVER OPEN;SCX-5530FN,SEC,-,-,-,-,-	Z4389	SA
8.11-5-1	JC63-00983A	COVER-M_ADF OPEN;SCX-5530FN,HIPS,-,265.2		SNA
8.11-5-2	JB72-00843A	PMO-GUIDE PAPER;SCX-1110F,HIPS,IV21,-,-,	Z4390	SA
8.11-6	JC63-00998A	COVER-M_ADF CONNECTOR;SCX-5530FN,ABS,-,7		SNA
8.12-5	JB61-00076A	SPRING ETC-TORSION DOC (CC2-F);SCX-1110F	O1013	SA
8.12-6	JB72-00819A	PMO-BUSH;SCX-1110F,POM,NTR,-,-,-,-,-,-	Z4355	SA
8.12-7	JC61-00548A	SPRING ETC-WHITE BAR;SCX-5312F,SUS304WPB	Z4294	SA
8.12-8	JC61-00712A	GUIDE-STACKER SUB;SCX-4216F,PC+ABS,2.5T,	Z4353	SA
8.12-9	JC63-00372A	GROUND-P-ADF R2;SCX-4920N,C5210P,0.2,8,1	K3231	SA
8.12-10	JC63-00982A	COVER-M_ADF LOWER;SCX-5530FN,ABS,-,238,1		SNA
8.12-11	JC66-00310A	GEAR-AGITATOR-2;SCX-5100,POM(M90-44),0.6		SNA

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8.12-12	JC66-00460A	SHAFT-M-FEED GEAR 38;SCX-4216F,POM,-,D5.	Z4359	SA
8.12-13	JC66-00559A	ROLLER-EXIT;SCX-4216F,CR+SUM24L,14,-,-,-	Z4356	SA
8.12-14	JC66-00560A	ROLLER-DRIVE;SCX-4216F,CR+SUM24L,14,-,-,	Z4358	SA
8.12-15	JC70-10467A	IPR-GROUND_ROLLER;SCF-ML,SUS301,-,T0.2,-	S1049	SNA
8.12-16	JC72-01010A	PMO-ACTUATOR REGI SENSOR;SCX-4216F,PC,BL	Z4362	SA
8.12-17	JC72-01011A	PMO-ACTUATOR SCAN SENSOR;SCX-4216F,PC,BL	Z4361	SA
8.12-18	JC72-01320A	PMO-ACT EMPTY ADF;SCX-4920N,ABS,GRAY,-,-	S3071	SA
8.12-19	JC75-00095A	MEC-BRUSH ANTISTATIC;ML-6060A,SEC,NTR	M0022	SA
8.12-20	JC92-01859A	PBA SUB-ADF;CLX-3160,-,-,-,-,-,-,-,-		SA
8.12-22	JC61-01695A	BRACKET-P_WHITE_BAR;SCX-5530FN,SECC,T1.0	Z4354	SA
8.12-23	JC72-00752A	PPR-WHITE BAR SHEET;SCX-5100,PET,WHT,T0.	S5050	SA
8.12-24	JC39-00187A	CBF HARNESS-ADF ROLLER GND;SCX-5100,WIRE	H1031	SA
8.13-2	6003-000269	SCREW-TAPTITE;BH,+,-,S,M3,L6,ZPC(YEL),SW	Z4513	SA
8.13-20	JC66-00556A	IMPELLER-ADF;SCX-4216F,NYLON66,-,-,-,-,V	Z4369	SA
8.13-21	JC66-00557A	GEAR-REMOVE ADF;SCX-4114F,POM,M0.6,Z30,-	G0417	SA
8.13-22	JC39-00640A	HARNESS-ADF GND;CLX-3160,HARNESS,UL 1007		SA
8.13-3	6031-000019	WASHER-PLAIN;-,ID6.1,OD8.5,T0.1,BLK,POLY	Z4629	SNA
8.13-5	6031-001511	WASHER-PLAIN;POLYSLIDE,M5,ID5.2,OD10,T0.		SNA
8.13-8	JB66-00101A	GEAR-CLUTCH 29;SCX-1110F,POM(DELIN500P),	Z6018	SA
8.13-9	JB70-00070A	IPR-WASHER WAVE;SF-4750C,SUS301,-,0.1T,-		SA
8.13-10	JB72-00844A	PMO-WHITE CLUTCH SUB 29;SCX-1110F,POM(F2	Z6019	SA
8.13-11	JC31-00036A	MOTOR STEP-ADF;M42SP-13NK,SCX-4920N,0.6A	Z4364	SA
8.13-13	JC61-01659A	BRACKET-P-GEAR L;CLX-3160FN,SECC,T1.2,W1		SNA
8.13-14	JC66-00322A	GEAR-CLUTCH 39;SCX-5150,POM,M0.6,Z39,-,W	Z6061	SA
8.13-15	JC66-00454A	LINK-M-SWING ADF;SCX-4216F,DELIN 500CL,-		SA
8.13-16	JC66-00455A	GEAR-58/25 ADF;SCX-4216F,POM,M0.6,Z58/25	Z4368	SA
8.13-17	JC66-00456A	GEAR-40/21 ADF;SCX-4216F,POM,M0.6,Z40/21		SA
8.13-18	JC66-00457A	GEAR-SWING 31/20 ADF;SCX-4216F,POM,M0.6,	Z4367	SA
8.13-19	JC66-00458A	GEAR-IDLE 35 ADF;SCX-4216F,POM,M0.6,Z35,	Z4366	SA
8.14-1	JC61-01443A	FRAME-M BASE GOGH;CLP-300,PC+ABS,NH-1000	Z4550	SNA
8.14-2	JC61-40001A	FOOT-ML80;ML-80,NBR,-,GRAY,-,-,-	F0003	SA
8.14-3	JC66-00050A	CAM-CATCH;ML-9400W,POM,-,34¡¿18¡¿7,WHITE S	C0004	SA
8.14-4	JC61-01521A	PLATE-P-DRAW CONNECTOR;CLP-300,SECC,T1.0	Z4566	SNA
8.14-5	JC39-00488A	CBF HARNESS-MAIN_DRAW;CLP-300,WIRE HARNE	Z4477	SA
8.14-6	JC39-00565A	CBF HARNESS-ADF_DRAW;CLX-3160,WIRE HARNE		SA
8.14-7	6502-001093	CABLE CLAMP;DAWS-3NE,ID11*L34.8,-,NYLON6	C0002	SA
8.14-9	JC33-00015C	SOLENOID-PICK UP;-,CLP-300,DC24V,48§Ù¡¾1 S	Z4448	SA
8.14-10	JC66-01056A	GEAR-REGI DRIVE;CLP-300,POM,M0.8,Z32,-,W	Z4471	SA
8.14-11	6044-000001	RING-CS;ID3,OD3,T0.25,BLACK,SUS304	Z4513	SNA
8.14-11	6044-001005	RING-CS;ID4.8,OD10.0,T0.25,PASS,SUS-30	Z4417	SA
8.14-12	JC66-00346A	GEAR-MP/DUP DRV;SCX-5100,POM,SW-01,M0.8,	G0340	SA
8.14-13	JC61-01483A	PLATE-P-GROUND LSU;CLP-300,C5210P,T0.2,1	Z4554	SNA
8.14-14	JC61-01485A	PLATE-P-GROUND REGI;CLP-300,SUS304 CSP,T	Z4556	SNA
8.14-15	JC61-01547A	SPRING ETC-OPC LOCK R;CLP-300,C5210W,D1.	Z4470	SA
8.14-16	JC61-01484A	PLATE-P-GROUND T2;CLP-300,C5210P,T0.2,21	Z4555	SNA
8.14-17	JC61-01537A	PLATE-P-SHAFT LACK;CLP-300,SECC,T1.0,4,1	Z4558	SNA
8.14-18	JC61-01482A	PLATE-P-GROUND FUSER;CLP-300,SUS304-CSP,	Z4553	SNA
8.14-19	JC61-01489A	PLATE-P-GROUND EXIT;CLP-300,SUS 304 CSP,	Z4557	SNA
8.14-20	JC39-00302A	CBF HARNESS-100M_GND;CLP-500,-,-,1 PIN,5	C0007	SA
8.14-22	JC96-04021A	ELA HOU-REGI_EMP_MP;CLX-3160,KOREA,KOREA		SA
8.14-24	JC66-01119A	LEVER-M-ACTUATOR EMPTY;CLP-300,PC,T2.5,5	Z4578	SNA
8.14-25	JC61-01481A	HOLDER-M-ACTUATOR EMPTY;CLP-300,ABS,T2.5	Z4577	SNA
8.14-26	JC61-00018A	SPRING ETC-SENSOR;SF-5100,SUS304WPB,0.2,	Z4567	SNA
8.14-27	JC66-01133A	LEVER-M-ACTUATOR FEED;CLP-300,POM,T2.5,3	Z4545	SNA
8.14-28	JC61-01480A	HOLDER-M-ACTUATOR FEED;CLP-300,ABS,T2.5,	Z4568	SNA
8.14-29	JC61-01546A	SPRING ETC-OPC LOCK L;CLP-300,C5210W,D1.	Z4468	SA

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8.14-32	JC92-01723A	PBA SUB-WASTE_T;CLP-300,SEC,KOREA,WASTE_	Z4474	SA
8.14-33	JC61-01451A	PLATE-P-GROUND OPC L;CLP-300,C5210P,T0.2	Z4551	SNA
8.14-34	JC61-01486A	PLATE-P-GROUND PICKUP;CLP-300,C5210P,T0.	Z4546	SNA
8.14-35	JC63-00854A	COVER-M-GROUND OPC;CLP-300,ABS HB,T1.5,	Z4547	SNA
8.14-36	JC61-01477A	FRAME-M-EXIT;CLP-300,PC,NH-1035,5V,BLACK	Z4569	SNA
8.14-37	6107-001163	SPRING-CS;SUS304-WPB,-,PI0.4,D3.9,L13,-,	Z4460	SA
8.14-38	JC61-01568A	HOLDER-M-EXIT F DOWN;CLP-300,PC,T2.5,26.	Z4570	SNA
8.14-39	JC66-01149A	ROLLER-EXIT MAIN;CLP-300,PFA,D8.5,L23,BL	Z4464	SA
8.14-41	JC66-01040A	ROLLER-EXIT F DOWN;CLP-300,SUM22/EPDM,D4	Z4548	SNA
8.14-42	JC61-00829A	HOLDER-BEARING EXIT F/DOWN;SCX-4216F,POM	H4009	SA
8.14-44	JC66-00810A	GEAR-EXIT_DRV17;ML-1610,POM,0.8,17,-,BLK	O1073	SA
8.14-45	JC97-02639A	MEA UNIT-FU TERMINAL;CLP-300,SEC,EXPORT,		SA
8.14-50	JC66-01207A	SHAFT-M-CLUTCH FUSER;CLP-300,POM,L39.8,D	Z4472	SA
8.14-51	JC47-00014A	MEP-CLUTCH CAM;-,CLP-300,-,DC24V,0.18A,C	Z4469	SA
8.14-52	JC61-01566A	HOLDER-M-CLUTCH FUSER;CLP-300,PC+ABS,T2.	Z4549	SNA
8.14-53	JC39-00498A	CBF HARNESS-COVER S/W;CLP-300,WIRE HARNE	Z4459	SA
8.14-54	JC39-00497A	CBF HARNESS-INLET;CLP-300,WIRE HARNESS,U	Z4458	SA
8.14-55	JC47-00009C	MEP-CLUTCH REGI;-,CLP-300,3.0W,DC24V,125	Z4467	SA
8.14-56	6031-001255	WASHER-PLAIN;NYLON,CUTTING,ID5,OD9,T0.5,	W0004	SA
8.14-58	JC97-02688A	MEA UNIT-PICK UP GEAR;CLP-300,SEC,WORLD,		SA
8.14-58-1	JC66-01076A	GEAR-PICK UP A;CLP-300,POM,M0.8,Z45,-,WH	Z4478	SA
8.14-58-2	JC66-01077A	GEAR-PICK UP B;CLP-300,POM,M0.8,Z45,-,WH	Z4479	SA
8.14-58-3	6107-001167	SPRING-CS;SUS304-WPB,-,PI0.25,D3.25,L9.6	Z4318	SA
8.14-59	JC61-01478A	GUIDE-M-HARNESS;CLP-300,ABS,HB,T2.5,118.	Z4552	SNA
8.14-60	JC61-70911A	SPRING ETC-EXIT ROLL FD;ML-165,SUS304 WP	O1053	SA
8.14-61	JC61-01548A	HOLDER-M-CAM;CLP-300,POM (DE8903),T2.0,1	Z4559	SNA
8.14-62	JC66-01120A	SHAFT-FEED IDLE;CLP-300,SUM22+NI,L237,D8	Z4560	SNA
8.14-64	JC66-01307A	ROLLER-REGI;CLX-3160FN,SUM22+EPDM,D6.0/D		SNA
8.14-67	JC97-02647A	MEA UNIT-PICKUP ROLL;CLP-300,SEC,EXPORT,		SA
8.14-67-1	JC66-01080A	SHAFT-P-PICKUP;CLP-300,SECC,L286,T1.2,-,	Z4575	SNA
8.14-67-2	JC66-01105A	CAM-M-PICK UP;CLP-300,POM M90-44,-,-,WHI	Z4576	SNA
8.14-67-3	JC61-01151A	HOUSING-M-PICK_U;ML-1610,POM,-,-,35,NATU	P2067	SA
8.14-67-4	JC61-01173A	HOUSING-M-PICK_UP B;ML-1610,ABS HB,-,-,3	P2068	SA
8.14-67-5	JC73-00211A	RUBBER-PICK_UP;ML-1610,EPDM+IR,MM,-,-,-	P2148	SA
8.14-68-1	JC61-01473A	GUIDE-M-PICK UP;CLP-300,PC+ABS,HB,T2.5,5	Z4571	SNA
8.14-68-2	JC61-01538A	HOLDER-M-PAD;CLP-300,PC+ABS,HB,T2.5,-,-,	Z4573	SNA
8.14-68-5	JC66-00815A	LEVER-M-KICKER P/U;ML-1610,POM,-,10.5,31	R1120	SA
8.14-69	JC61-01533A	PLATE-P-PICK UP;CLP-300,SECC,T1.0,264,43	Z4572	SNA
8.14-73	JC72-00382B	PMO-BUSHING FEED;ML-1710,POM(DERLIN 8903	O1102	SA
8.14-74	JC66-00598A	ROLLER-FEED;ML-1710,SUM24L+NI+EPDN,5/12.	F6200	SA
8.14-75	JC66-01213A	SHAFT-M-FEED;CLX-3160FN,POM,L46.7,D10,WH		SNA
8.14-79-1	JC66-01212A	GEAR-FEED;CLX-3160FN,POM,M0.8,Z16,-,-,-,		SNA
8.14-79-2	JC61-01667A	BUSH-M CLUTCH;CLX-3160FN,POM,ID6.0,OD12.		SNA
8.14-80	JC97-02685A	MEA UNIT-MP;CLX-3160FN,SEC,WORLD,-,-,-,-		SA
8.14-81	JC63-01147A	SHEET-MANUAL;CLX-3160FN,PET,T0.188,W217,		SA
8.15-1	JC61-01450A	BRACKET-P-DRIVE MOTOR;CLP-300,SECC,T1.2,	Z4524	SNA
8.15-2	6031-001528	WASHER-PLAIN;POLYMIDE,-,ID6,OD13.5,T0.5,	Z4422	SA
8.15-3	JC66-01042A	GEAR-IDLE DEVE Z19;CLP-300,POM,M0.8,Z19,	Z4423	SA
8.15-4	JC66-01052A	GEAR-RDCN DEVE CAM;CLP-300,POM,M0.8/M0.6	Z4424	SA
8.15-5	JC66-01041A	GEAR-DEVE COUPLING;CLP-300,POM,M0.8,Z18,	Z4425	SA
8.15-6	6107-001271	SPRING-CS;SUS304 WPB,-,PI0.55,D6.75,L9.0	Z4426	SA
8.15-7	JC66-01047A	GEAR-IDLE Z39;CLP-300,POM,M0.8,Z39,-,WHI	Z4427	SA
8.15-8	JC66-01065A	GEAR-TONER DRIVE;CLP-300,POM,M0.8/Z0.8,Z	Z4428	SA
8.15-9	JC66-01046A	GEAR-IDLE Z33;CLP-300,POM,M0.8,Z33,-,WHI	Z4429	SA
8.15-10	JC66-00763A	GEAR-M-PICK UP IDLE;CLP-600,POM,M0.8,SPU	G0031	SA
8.15-11	JC47-00007E	MEP-CLUTCH CAM;-,CLP-300,-,DC24V,0.133A,	Z4430	SA

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8.15-12	JC66-01208A	GEAR-RDCN FUSER CAM;CLP-300,POM,M0.8/Z0.	Z4431	SA
8.15-13	JC66-01045A	GEAR-IDLE ITB Z43;CLP-300,POM,M0.5,Z43,-	Z4432	SA
8.15-14	JC66-01048A	GEAR-ITB DRIVE;CLP-300,POM,M0.5/M0.5,Z10	Z4433	SA
8.15-15	JC66-01054A	GEAR-RDCN OPC;CLP-300,POM,M0.5/M0.6,Z79/	Z4434	SA
8.15-16	JC66-01049A	GEAR-OPC DRIVE;CLP-300,POM,M0.6/M0.6,Z53		SA
8.15-17	JC66-01051A	GEAR-RDCN DEVE;CLP-300,POM,M0.5/M0.8,Z73	Z4435	SA
8.15-18	JC66-01055A	GEAR-RDCN P_PATH;CLP-300,POM,M0.5/M0.8,Z	Z4436	SA
8.15-19	JC66-01050A	GEAR-PICK UP DRIVE;CLP-300,POM,M0.8/M0.8	Z4437	SA
8.15-20	JC66-01044A	GEAR-FUSER DRIVE 1;CLP-300,POM,M0.8,Z45,	Z4438	SA
8.15-21	JC66-01053A	GEAR-RDCN EXIT;CLP-300,POM,M0.8/M0.8,Z51	Z4439	SA
8.15-22	JC66-01043A	GEAR-DEVE DRIVE;CLP-300,POM,M0.6,Z21,-,W	Z4440	SA
8.15-24	JC66-00771A	GEAR-_M_IDLE PICKUP;CLP-600,POM,M0.8,SPU	G0010	SA
8.15-25	JC61-01459A	BRACKET-M-DRIVE FRONT;CLP-300,PC,T2.5,W1	Z4530	SNA
8.15-26	JC66-01061A	SHAFT-IDLE D8;CLP-300,SUM24L+NI,L16.7,D1	Z4531	SNA
8.15-27	JC66-01064A	GEAR-IDLE Z37;CLP-300,POM,M0.8,Z37,-,WHI	Z4441	SA
8.15-28	6003-000301	SCREW-TAPTITE;BH,+,S,M4,L6,ZPC(YEL),SWRC	Z4532	SNA
8.15-29	JC66-01060A	SHAFT-WORM GEAR;CLP-300,SUM24L+NI,L44.6,	Z4533	SNA
8.15-30	JC66-01057A	GEAR-WORM DEVE CAM;CLP-300,POM,M0.6/M0.6	Z4444	SA
8.15-32	6001-000130	SCREW-MACHINE;BH,+,M3,L6,ZPC(WHT),SWRCH1	Z4445	SA
8.15-32	6001-000485	SCREW-MACHINE;PH,+,M2.6,L4,ZPC(YEL),SWRC	Z4534	SNA
8.15-32	6006-000127	SCREW-MACHINE;WS,PH,+,M3,L6,ZPC(YEL),SWR	Z4563	SNA
8.15-33	JC66-01070A	LATCH-M-HUB CLUTCH;CLP-300,POM,T2.0,D18.	Z4535	SNA
8.15-34	JC66-01155A	GEAR-FUSER RDCN OUT V;ML-3560,HTNFR52G30	Z4536	SNA
8.15-35	6044-000231	RING-E;ID5.0,OD11.0,T0.6,PASS,STS304	R0006	SA
8.15-36	JC66-01068A	SHAFT-M-T2 CAM;CLP-300,POM,L52,D20,BLACK	Z4446	SA
8.15-37	JC66-01067A	SHAFT-M-ITB CLEAN CAM;CLP-300,POM,L44,D2	Z4447	SA
8.15-38	JC31-00041A	MOTOR DC-DEVE DRIVE;50M843A152,CLP-600,2	M0024	SA
8.15-41	JC61-01458A	BRACKET-M-DEVE CAM;CLP-300,PC+ABS,T2.5,W	Z4537	SNA
8.15-43	JC67-00130A	CAP-M-PUSH COUPLING;CLP-300,POM,T2.0,D13	Z4450	SA
8.15-44	JC97-01788B	MEA UNIT-CLUTCH DEV;CLP-300,-,WORLD,M0.6	Z4451	SA
8.15-45	JC66-01066A	SHAFT-M-DEVE CAM;CLP-300,POM,L116,D18.3,	Z4452	SA
8.15-46	JC92-01720A	PBA SUB-DEVE_HOME;CLP-300,SEC,KOREA,DEVE	Z4453	SA
8.15-47	JC61-01453A	HOLDER-M-LINK BLACK;CLP-300,PC+ABS,T2.5,	Z4454	SA
8.15-48	JC66-01097A	LINK-M-PUSH BLACK CAP;CLP-300,POM,22,T2.	Z4455	SA
8.15-49	JC61-00699A	BUSH-D6/L4;CLP-500,BRONZE+ST,ID6.0,OD9.0	B0027	SA
8.15-51	0205-001095	GREASE-BEARING;NYE8512,NOISE DAMPING(BLU	Z4543	SNA
8.15-51	0205-001003	GREASE-BEARING;NYOGEL788,DAMPING GREASE,	Z4539	SNA
8.15-51	0205-001059	GREASE-BEARING;PETAMO GHV 133,BEIGE,15KG	Z4540	SNA
8.15-51	0205-001144	GREASE-BEARING;SF-112,HANARL,NOISE TAMPI	Z4541	SNA
8.15-51	0205-001080	GREASE-BEARING;NYOGEL 774H,NOISE DAMPING	Z4542	SNA
8.15-51	0205-001002	GREASE-BEARING;NYOGEL744,WITH PTFE,-		SNA
8.15-51	0205-000005	GREASE-BEARING;EP56,DIAMOND HYDRO FLUID,		SNA
8.16-1	JC67-00168A	BRUSH-LSU;CLP-300,PP BRUSH,-,W4.5,L180.6	Z4579	SNA
8.16-2	JC64-00267A	SHUTTER-LSU;CLP-300,ABS GF20,T2.5,W11.5,	Z4580	SNA
8.16-3	JC63-00839A	COVER-M-LSU;CLP-300,ABS HB,T2.0,239.5,1	Z4581	SNA
8.16-4	6107-001295	SPRING-CS;SUS304,-,PI0.45,D5.45,L22.5,-,	Z4582	SNA
8.16-5	JC63-01093A	SHEET-LSU FRONT;CLP-300,PET SHEET,T0.188	Z4583	SNA
8.16-6	JC62-00338A	SEAL-COVER LSU;CLP-300,EPDM,-,T2.5,W8,L1	Z4584	SNA
8.17-4	0604-001257	PHOTO-INTERRUPTER;TR,-,-,DIP-4,BK	Z4628	SNA
8.17-5	6003-000282	SCREW-TAPTITE;BH,+,-,B,M3,L8,ZPC(BLK),SW	Z4517	SA
8.17-7	6107-001287	SPRING-CS;SUS304-WPB,-,PI0.6,D6.5,L25,-,	Z4630	SNA
8.17-9	6107-001289	SPRING-CS;SUS304-WPB,-,PI0.95,-,L21.2,-,	Z4632	SNA
8.17-10	JC02-00054A	TONER-BLACK;CLP-300,SAK-79JG-K1,BLACK,8.	Z4633	SNA
8.17-11	JC39-00489A	CBF HARNESS-ITB_JOINT;CLP-300,WIRE HARNE	Z4634	SNA
8.17-12	JC39-00502A	CBF HARNESS-ITB_HOME;CLP-300,WIRE HARNES	Z4635	SNA
8.17-14	JC61-01494A	FRAME-M-ITB;CLP-300,ABS+GF20%,GR-4020,-,	Z4636	SNA

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8.17-15	JC61-01495A	FRAME-M-WASTE ITB;CLP-300,ABS GF20%,GR-4	Z4637	SNA
8.17-16	JC61-01497A	HOUSING-M-CLEANING ITB;CLP-300,ABS GF 20	Z4638	SNA
8.17-17	JC61-01498A	HOLDER-M-BUSH CHARGE;CLP-300,POM(M90-44)	Z4639	SNA
8.17-18	JC61-01499A	GUIDE-M-POLE ITB;CLP-300,ABS HF-0660I,-,	Z4640	SNA
8.17-19	JC61-01502A	BRACKET-P-HOUSING LEFT;CLP-300,SECC,1.2T	Z4641	SNA
8.17-20	JC61-01503A	BRACKET-P-HOUSING RIGHT;CLP-300,SECC,1.2	Z4642	SNA
8.17-21	JC61-01504A	PLATE-P-GND ITB;CLP-300,BRONZE(C5210P-H)	Z4643	SNA
8.17-22	JC61-01505A	HOLDER-M-PTL;CLP-300,ABS HB HF-0660I,10.	Z4644	SNA
8.17-23	JC61-01506A	HOLDER-M-HOME SENSOR;CLP-300,ABS HB(HF-0	Z4645	SNA
8.17-24	JC61-01536A	BUSH-M-CHARGE CLEANING;CLP-300,POM(M90-4	Z4646	SNA
8.17-25	JC61-01539A	BUSH-M-DRIVE ITB;CLP-300,POM(M90-44),ID6	Z4647	SNA
8.17-26	JC61-01540A	BUSH-M-ITB;CLP-300,POM(M90-44),ID6,OD8.1	Z4648	SNA
8.17-27	JC61-01541A	BUSH-M-TR ITB;CLP-300,POM(AT-15CF),ID6,-	Z4649	SNA
8.17-28	JC61-01542A	BUSH-M-IDLER WASTE BELT;CLP-300,POM(M90-	Z4650	SNA
8.17-29	JC61-01543A	BUSH-CHARGE LEFT;CLP-300,SINTERED BRONZE	Z4651	SNA
8.17-30	JC61-01701A	SPRING ETC-SHUTTER;CLP-300,SWP-B,¡Ë0.35,S	Z4652	SNA
8.17-31	JC61-01704A	SPRING ETC-GROUND ITB;CLP-300,SUS304-WPB	Z4653	SNA
8.17-32	JC62-00210A	SEAL-AUGER OPC;CLP-300,PORON LE-20,-,5T,	Z4654	SNA
8.17-33	JC62-00212A	SEAL-BELT ITB;CLP-300,URETHANE FILM,-,0.	Z4655	SNA
8.17-34	JC62-00213A	SEAL-LOW ITB;CLP-300,POLYURETHANE,-,6T,W	Z4656	SNA
8.17-35	JC62-00217A	SEAL-COVER WASTE;CLP-300,PORON,-,T2,W11.	Z4657	SNA
8.17-36	JC62-00219A	SEAL-BACK ITB;CLP-300,POLYURETHANE FOAM,	Z4658	SNA
8.17-37	JC62-00221A	SEAL-BACK ITB RIGHT;CLP-300,POLYURETHANE	Z4659	SNA
8.17-38	JC62-00222A	SEAL-SIDE ITB LEFT;CLP-300,POLYURETHANE	Z4660	SNA
8.17-39	JC62-00223A	SEAL-SIDE ITB RIGHT;CLP-300,POLYURETHANE	Z4661	SNA
8.17-40	JC62-00229A	SEAL-BLADE ITB LEFT;CLP-300,POLYURETHANE	Z4662	SNA
8.17-41	JC62-00232A	SEAL-TOP ITB;CLP-300,POLYURETHANE,-,10T,	Z4663	SNA
8.17-42	JC62-00257A	SEAL-FRAME WASTE ITB;CLP-300,PORON LE-20	Z4664	SNA
8.17-43	JC62-00258A	SEAL-WASTE OPC;CLP-300,PORON LE-20,-,T0.	Z4665	SNA
8.17-44	JC62-00281A	SEAL-HOUSING ITB L;CLP-300,PORON LE-20,B	Z4666	SNA
8.17-45	JC62-00282A	SEAL-HOUSING ITB R;CLP-300,PORON LE-20,B	Z4667	SNA
8.17-46	JC62-00326A	SEAL-WASTE SIDE;CLP-300,POLY URETHANE FO	Z4668	SNA
8.17-47	JC63-00857A	COVER-M-WASTE ITB;CLP-300,PC,2.0T,W49.4,	Z4669	SNA
8.17-48	JC63-00859A	COVER-M-WASTE EXIT;CLP-300,POM(M90-44),T	Z4670	SNA
8.17-49	JC63-00862A	COVER-M-HANDLE ITB;CLP-300,ABS HF-0660I,	Z4671	SNA
8.17-50	JC63-01045A	SHEET-FRAME ITB;CLP-300,PC,T0.125,W80.5,	Z4672	SNA
8.17-52	JC63-01124A	SHEET-HOUSING ITB F;CLP-300,PET,T0.188,W	Z4673	SNA
8.17-53	JC63-01170A	SHEET-BLADE ITB;CLP-300,PC,T0.5,5,222.5,	Z4674	SNA
8.17-54	JC66-01082A	ARM-M-BLADE ITB;CLP-300,PC,T5.0,53,L71,B	Z4675	SNA
8.17-55	JC66-01083A	SHAFT-M-BELT WASTE;CLP-300,POM(M90-44),L	Z4676	SNA
8.17-56	JC66-01085A	SHAFT-M-AUGER ITB;CLP-300,ABS+GF20%,253,	Z4677	SNA
8.17-57	JC66-01087A	GEAR-AUGER ITB;CLP-300,POM (M90-44),M0.8	Z4678	SNA
8.17-58	JC66-01112A	DRUM-ITB BELT;CLP-300,PI,OD120,W240,L376	Z4679	SNA
8.17-59	JC66-01131A	ROLLER-T1;CLP-300,NBR + ECO FORM,OD14,L2	Z4680	SNA
8.17-60	JC67-00027A	LENS-PTL;ML-1710,PMMA,NTR,-,-,-,-	K3433	SA
8.17-61	JC68-10914D	LABEL(P)-SERIAL NO;ML-85,ART,70X15,G100,	Z4619	SNA
8.17-62	JC72-40332A	PMO-BUSHING_CHARGE;ML-80,POM,BLK,HB,-	Z4681	SNA
8.17-63	JC73-00222A	RUBBER-BELT WASTE ITB;CLP-300,CR+NR20%,1	Z4682	SNA
8.17-64	JC92-01709A	PBA SUB-ITB_JOINT;CLP-300,SEC,KOREA,ITB-	Z4683	SNA
8.17-71	JC92-01724A	PBA SUB-PTL;CLP-300,SEC,KOREA,PTL,-,-,-,	Z4684	SNA
8.17-75	JC97-02645A	MEA UNIT-BLADE ITB;CLP-300,SEC,EXPORT,-,	Z4685	SNA
8.17-81	JC97-02646A	MEA UNIT-ROLL DRV ITB;CLP-300,SEC,EXPORT	Z4686	SNA
8.17-85	JC97-02695A	MEA UNIT-ROLL IDL ITB;CLP-300,SEC,WORLD,	Z4687	SNA
8.18-2	6006-001078	SCREW-TAPTITE;WSP,PH,+,M3,L10,ZPC(YEL),S	Z4613	SNA
8.18-4	JC39-00499A	CBF HARNESS-JOIN_DRAW;CLP-300,WIRE HARNE	Z4614	SNA
8.18-6	JC67-00199A	CAP-DEVE;CLP-300,PP,-,31.5,62,-,-	Z4616	SNA

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8.18-7	JC68-01708A	LABEL-INFORMATION;CLP-300,-,WHITE POLY,T	Z4617	SNA
8.18-9	JC69-01013A	CUSHION-DEVE;CLP-300,EPP,T10,W75,L351,-,	Z4620	SNA
8.18-10	JC96-03911A	ELA UNIT-DEV MAIN SET;CLP-300,SEC,EXPORT	Z4621	SNA
8.18-10-1	JC61-01520A	FRAME-M-DEVE MAIN;CLP-300,ABS GF20%,GR-4		SNA
8.18-10-2	JC63-00853A	COVER-M-TONER BOTTLE;CLP-300,ABS HB HF-0		SNA
8.18-10-3	JC92-01708A	PBA SUB-DEVE_JOINT;CLP-300,SEC,KOREA,DEV		SNA
8.18-10-4	JC66-01115A	GEAR-WORM AGITATOR;CLP-300,PC-141R,-,-,-		SNA
8.18-10-5	JC97-01788C	MEA UNIT-CLUTCH TONER;CLP-300,-,WORLD,M0		SNA
8.18-10-6	JC66-01116A	GEAR-IDLE M08Z30L;CLP-300,POM (M90-44),M		SNA
8.18-10-7	6107-001285	SPRING-CS;SUS304-WPB,-,PI0.45,D8.85,L12,	Z4508	SNA
8.18-10-8	6107-001292	SPRING-CS;SUS304-WPB,-,PI0.55,-,L11.1,-,	Z4509	SNA
8.18-10-9	JC33-00018A	SOLENOID-TONER;-,CLP-300,DC24V,120§Ù¡¾10SN		SNA
8.18-10-12	JC61-01573A	HOLDER-SUPPORT;CLP-300,ABS,T14.5,W26.5,L		SNA
8.18-10-13	JC61-01687A	SPRING ETC-LOCK;CLP-300,PW-2,PI1.3,-,-,L		SNA
8.18-10-14	JC61-01706A	STUD-GEAR ITB;CLP-300,SUM22L,-,-,-,-,OD6		SNA
8.18-10-16	JC63-00897A	COVER-M-WIRE;CLP-300,ABS,T2.0,W18.9,L133		SNA
8.18-10-17	JC64-00217A	HANDLE-M-UNIT;CLP-300,ABS,7.0T,50.5,130,		SNA
8.18-10-18	JC64-00229A	HANDLE-LOCK;CLP-300,ABS,T34.26,W39.3,L83		SNA
8.18-10-19	JC66-01094A	LEVER-M-WASTE SENSOR;CLP-300,ABS,3.0T,18		SNA
8.18-10-20	JC66-01103A	LEVER-M-LOCK DEVE FRAME;CLP-300,ABS,2.0T		SNA
8.18-10-21	JC66-01113A	GEAR-IDLE M08Z30R;CLP-300,POM (M90-44),M		SNA
8.18-10-22	JC66-01114A	GEAR-DRIVE Z20;CLP-300,POM (DE588P),M0.8		SNA
8.18-10-25	JC66-01117A	GEAR-IDLE ITB;CLP-300,POM (M90-44),M0.8,		SNA
8.18-10-27	JC66-01143A	ROLLER-SLIDE B;CLP-300,POM,L20,OD14,BLAC		SNA
8.18.10-29	JC67-00191A	CAP-DUMMY;CLP-300,ABS,-,-,L31.4,DM GRAY,		SNA
8.18-11	JC97-02571A	MEA UNIT-OPC SET;CLP-300,SEC,WORLD,-,-,-	Z4622	SNA
8.19-1	JC61-01474A	FRAME-M-UPPER FUSER;CLP-300,PET+GF30%,BN	Z4585	SNA
8.19-2	JC61-01475A	FRAME-M-LOWER FUSER;CLP-300,PET+GF30%,BN	Z4586	SNA
8.19-3	JC66-01078A	ROLLER-HEAT;CLP-300,AL5052+RUBBER,D27.5,	Z4587	SNA
8.19-4	JC66-00669A	GEAR-FUSER;SCX-5315F,PPS, OFL4036,1,34,P	Z4481	SA
8.19-5	JC66-10902A	BEARING-H/R L;ML-165,PPS(RBA313N),-,ID26	B1019	SA
8.19-6	JC72-00814A	PMO-BEARING H/R-F;SCX-5100,-,PPS,BLK,V0,	B1040	SA
8.19-7	4712-001027	THERMOSTAT;125/250VAC,15/7.5A,170+-5C,0C	T0002	SA
8.19-8	JC66-01079A	ROLLER-PRESSURE;CLP-300,SUM22,D16,L237.5	Z4588	SNA
8.19-9	JC66-01111A	ROLLER-PRESSURE SHAFT;CLP-300,SUM22,D8.0	Z4589	SNA
8.19-10	JC61-01490A	HOLDER-M-BUSH 2PR_R;CLP-300,PBT,T2.0,33.	Z4590	SNA
8.19-11	JC61-01491A	HOLDER-M-BUSH 2PR_L;CLP-300,PBT,T2.0,33.	Z4591	SNA
8.19-12	JC61-01534A	BUSH-M-2PR L;CLP-300,PPS(RBA313N),-,-,5.	Z4592	SNA
8.19-13	JC61-01535A	BUSH-M-2PR R;CLP-300,PPS(RBA313N),-,5.3,	Z4593	SNA
8.19-14	JC61-01522A	GUIDE-M-INPUT FUSER;CLP-300,PET+GF30%,5V	Z4594	SNA
8.19-15	JC66-01222A	LEVER-M ACTUATOR EXIT;CLX-3160FN,PET+GF3		SNA
8.19-16	JC61-01476A	PLATE-P-GROUND FUSER;CLP-300,SUS 304 CSP	Z4596	SNA
8.19-17	JC70-00518A	ELECTRODE-P-AC R;CLP-300,C5210P T0.8,D3.	Z4597	SNA
8.19-18	JC70-00519A	ELECTRODE-P-AC L;CLP-300,C5210P T0.8,D3.	Z4598	SNA
8.19-19	JC68-00408A	LABEL(R)-LV FUSER;COMMON,PVC,-,110V,-,,,	Z4599	SNA
8.19-20	JC68-01134A	LABEL(P)-BLANK(FUSER);ML-1710D3,-,WHITE	Z4600	SNA
8.19-21	JC68-01581A	LABEL(P)-CAUTION HOT;COMMON,SAMSUNG,PET,	Z4601	SNA
8.19-22	6107-001246	SPRING-CS;SWP-B,-,PI0.9,D5.6,L16.6,-,-,I	Z4602	SNA
8.19-23	JC61-01271A	SPRING ETC-ACTUATOR;CLP-600,SUS304 ,0.35	S0018	SA
8.19-24	JC39-00500A	CBF HARNESS-FUSE_LINK1;CLP-300,WIRE HARN	Z4483	SA
8.19-25	JC39-00501A	CBF HARNESS-FUSE_LINK2;CLP-300,WIRE HARN	Z4484	SA
8.19-28	4713-001209	LAMP-HALOGEN;115V,-,850W,-,-,-,10X299.6M	Z4604	SA
8.19-29	1404-001368	THERMISTOR-NTC ASSY;1KOHM,-,4537K,0.25MW	Z4486	SA
8.19-30	JC70-00064A	IPR-PIN ROLLER EXIT;SF-5100,SUS304,PI1.8	Z4605	SNA
8.19-31	JC72-20902A	PEX-ROLLER F/UP(2);ML-5000A,TEFLON,WHT,-	O1106	SA
8.19-32	JC72-00382A	PMO-BUSHING TX;ML-6060A,POM M9044,BLK,-,	Z4606	SNA

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8.19-33	JC66-01206A	SHAFT-M-CAM FUSER;CLP-300,PC+GF30%,L252.	Z4607	SNA
8.19-34	JC61-01647A	HOLDER-M-SHAFT FUSER;CLP-300,PC,T2.0,-,L	Z4608	SNA
8.19-35	JC66-01147A	LEVER-M-RELEASE;CLP-300,PET+GF30%,T1.5,W	Z4609	SNA
8.19-36	JC66-01148A	LEVER-M-LINK FUSER;CLP-300,PET+GF30%,T1.	Z4487	SA
8.19-37	JC66-01309A	ROLLER-DUMMY;CLP-300,PFA,OD6.0,L10.0,-,-	Z4612	SNA
8.19-39	JC61-01679A	SPRING ETC-GROUND;CLP-300,SUS 304 WPB,¥Õ	Z4490	SA
8.19-40	6107-001267	SPRING-CS;SWP-B,-,PI1.0,D5.9,L17,-,-,ID4	Z4482	SA
8.19-41	6107-001290	SPRING-CS;SUS304 WPB,-,PI0.55,D5.55,L16,	Z4488	SA
8.19-42	JC97-02778A	MEA UNIT-GUIDE PR;CLP-300,SEC,EXPORT,-,-	Z4611	SNA
8.20-1	JC63-00869A	TRAY-M-EXTENSION SMALL;CLP-300,ABS,T2.5,	Z4689	SNA
8.20-2	JC63-00855A	COVER-M-CASSETTE;CLP-300,ABS,T2.5,77,224	Z4690	SA
8.20-4	JC61-01531A	STOPPER-M-PAPER REAR;CLP-300,ABS HB,T2.5		SNA
8.20-5	JC63-00872A	TRAY-M-EXT CASSETTE;CLP-300,ABS,T2.5,118		SNA
8.20-8	JC61-01530A	FRAME-M-SEMI CASSETTE;CLP-300,ABS,HF-066	Z4688	SNA
8.20-9	JC70-00516A	ADJUST-M-CASSETTE R;CLP-300,ABS HB,T2.5,	Z4494	SA
8.20-10	JC70-00517A	ADJUST-M-CASSETTE L;CLP-300,ABS HB,T2.5,	Z4495	SA
8.20-12	JC68-01680A	LABEL-INSTRUCTION;CLP-300,-,WHITE PET,T0	Z4692	SNA
8.20-13	JC68-01679A	LABEL-INSTRUCTION;CLP-300,-,WHITE PET,T0	Z4691	SNA
8.20-14	6107-001240	SPRING-CS;SUS304-WPB,GROUND END,PI0.6,D1	D4084	SA
8.20-15	JC64-00223A	LOCKER-M-KNOCK UP L;CLP-300,POM (M90-44)	Z4493	SA
8.20-16	JC64-00222A	LOCKER-M-KNOCK UP R;CLP-300,POM (M90-44)	Z4492	SA
8.20-17	JG61-70531A	SPRING ETC-LOCKER,PLATE;SF6000,STS304WPB	S0025	SA
8.20-18	JC61-01158A	PLATE-M-KNOCK_UP;ML-1610,HIPS HB,T2,W80,	K5002	SA
#N/A	JC68-00761A	MANUAL-PRC;COMMON,SEA,ENGLISH,USA,MOJO 1		SNA
#N/A	JC68-01706A	MANUAL-INSTALL;CLX-3160,-,-,-,M150,420 M		SNA
#N/A	JC96-03613A	ELA UNIT-TONER TANK Y;CLP-300,SEC,EXPORT	Z4499	SNA
#N/A	JC96-03614A	ELA UNIT-TONER TANK M;CLP-300,SEC,EXPORT	Z4498	SNA
#N/A	JC96-03615A	ELA UNIT-TONER TANK C;CLP-300,SEC,EXPORT	Z4497	SNA
#N/A	JC96-03616A	ELA UNIT-TONER TANK K;CLP-300,SEC,EXPORT	Z4500	SNA
#N/A	JC96-04086A	ELA UNIT-ENGINE;CLX-3160FN,SEC,WORLD,-,-		SNA
#N/A	JC99-01962A	INA-ACCESSORY;CLX-3160FN,SEC,XAA,IRIS,FA		SNA
#N/A	JC99-01964A	PAA-LABEL;CLX-3160FN,XAA,-,-,-,-		SNA
#N/A	JC99-01966A	PAA WOOD-PACKING;CLX-3160FN,XAA,-,-,-,-		SNA
#N/A	0202-001240	SOLDER-WIRE;HSE-01,-,D3,SN/0.5CU/0.03NI/		SNA
#N/A	0202-001492	SOLDER-WIRE FLUX;HSE-02 LFM48 SR-34 S,-,		SNA
#N/A	0203-000007	TAPE-FILAMENT;3M,T0.15,W18,L55M,TRP		SNA
#N/A	0203-001100	TAPE-OPP MASKING;OPP/W75/CLR,T0.05,W75,L		SNA
#N/A	0203-001159	TAPE-FILAMENT;#8915,T0.15,W12,L55000,CLR		SNA
#N/A	0204-000469	THINNER;#4662,-,0.795,-		SNA
#N/A	0204-002978	FLUX;KSP-70M,-,84%,FLUX,SPRAY		SNA
#N/A	0205-001056	GREASE-GRAPHITE;CRS841,WHT,-		SNA
#N/A	0205-001067	GREASE-GRAPHITE;NYOGEL 756G,HYDRO CARBON		SNA
#N/A	0205-001214	GREASE;LUBTECH FF 662,WHITE,-		SNA
#N/A	1103-001273	IC-EEPROM;24C64A,64Kbit,8Kx8Bit,DIP,8P,9		SA
#N/A	2201-002127	C-CERAMIC,DISC;0.47NF,10%,250V,Y5P,TP,8.		SNA
#N/A	2305-000385	C-FILM,LEAD-PEF;470nF,10%,250V,BK,18x6x1		SA
#N/A	2801-003886	CRYSTAL-UNIT;12MHz,50ppm,28-AAA,16pF,50o		SNA
#N/A	2801-003960	CRYSTAL-UNIT;28.224MHz,50ppm,28-AAA,18pF		SA
#N/A	2801-004414	CRYSTAL-UNIT;25MHZ,50PPM,HC-49/S,12PF,50		SNA
#N/A	3501-000203	RELAY-MINIATURE;5V,200MW,1000MA,1FORMC,6		SA
#N/A	3704-000349	SOCKET-IC;8P,DIP,SN,2.54MM		SNA
#N/A	3708-001058	CONNECTOR-FPC/FFC/PIC;30P,1MM,STRAIGHT,S		SA
#N/A	3708-001637	CONNECTOR-FPC/FFC/PIC;24P,1MM,STRAIGHT,S		SA
#N/A	3711-000164	HEADER-BOARD TO CABLE;1WALL,2P,1R,2.5mm,		SNA
#N/A	3711-000198	HEADER-BOARD TO CABLE;1WALL,3P,1R,2.5MM,		SA
#N/A	3711-000203	HEADER-BOARD TO CABLE;1WALL,2P/3P,1R,7.9		SA

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#N/A	3711-002410	HEADER-BOARD TO CABLE;BOX,10P,2R,2mm,STR		SNA
#N/A	3711-003035	HEADER-BOARD TO CABLE;BOX,14P,2R,2mm,STR		SA
#N/A	3711-004556	CONNECTOR-HEADER;BOX,8P,2R,2mm,STRAIGHT,		SNA
#N/A	3722-002303	JACK-USB;4P/1C,AU30U,BLK,ANGLE,B TYPE		SA
#N/A	3722-002345	JACK-MODULAR;6P/4C,INVERTED,N,ANGLE,N,GR		SA
#N/A	3722-002381	JACK-MODULAR;8P/8C,INVERTED,Y,ANGLE,GRN/		SNA
#N/A	6501-000004	CABLE TIE;DA-80,T1,W2.5,L80,NTR,NYLON66	K2756	SA
#N/A	6602-001528	BELT-FLAT RUBBER;-,CR,T2.5,-,PI69.6,BLAC		SA
#N/A	6902-000288	BAG PE;LDPE,T0.05,W250,L450,TRP,8,2-		SNA
#N/A	6902-000732	BAG PE;LDPE,T0.1,W120,L200,TRP,0,0,-		SNA
#N/A	6902-000734	BAG PE;LDPE,T0.1,W140,L250,TRP,-,-,-		SNA
#N/A	6902-000786	BAG PE;HDPE,T0.02,W800,L1300,TRP,28,0,M-		SNA
#N/A	JB27-00004A	COIL CHOKE-DIP;DR 8X11(470UH),MJC-1450,4	Z6017	SA
#N/A	JB68-00073A	LABEL(R)-BAR CODE;SF-3000,PY,38X6.5,T0.1		SNA
#N/A	JB68-00916A	LABEL RATING-BLANK;SF-340,SEC,TETRON,0.0		SNA
#N/A	JC02-00052A	TONER-MAGENTA;CLP-300,SAM-79GZ-K1,MAGENT		SNA
#N/A	JC02-00053A	TONER-CYAN;CLP-300,SAC-79GZ-K1,CYAN,8.5?		SNA
#N/A	JC02-00055A	TONER-YELLOW;CLP-300,SAY-79GZ-K1,YELLOW,		SNA
#N/A	JC39-00578A	CBF HARNESS-GND_BRK;CLP-300,WIRE HARNESS	Z4461	SA
#N/A	JC39-00579A	CBF HARNESS-LSU_S/W;CLP-300,WIRE HARNESS	Z4463	SA
#N/A	JC39-00581A	CBF HARNESS-FUSER_AC;CLP-300,WIRE HARNES	Z4465	SA
#N/A	JC39-00583A	HARNESS-GND_FRAME;CLP-300,WIRE HARNESS,U	Z4466	SA
#N/A	JC39-00606A	HARNESS-SCF;CLX-3160,HARNESS,UL1061,8/8P		SA
#N/A	JC44-00135A	HVPS;-,24V,21.6V~27.6V,-,MAX 5KV,MAX-2KV		SA
#N/A	JC46-00255A	S/W APPLICATION-CD;-,ML-3560,-,PRT DRV,1		SNA
#N/A	JC46-00275A	S/W APPLICATION-CD;-,CLX-3160,PRT DRV,1.		SNA
#N/A	JC61-01487A	PLATE-P-GROUND SCF;CLP-300,SUS 304 CSP,T		SNA
#N/A	JC61-01570A	GUIDE-M-PAPER;CLP-300,POM M90-44,T2.0,15	Z4574	SNA
#N/A	JC61-01675A	SPRING ETC-AUGER;CLP-300,SUS304,¡Ë1.2,-,S		SNA
#N/A	JC61-01676A	SPRING ETC-AUGER K;CLP-300,SWP-B,¡Ë1.2,IS		SNA
#N/A	JC61-01677A	SPRING ETC-RETURN;CLP-300,SUS304,¡Ë0.65,S		SNA
#N/A	JC61-01685A	SPRING ETC-DUMMY;CLP-600,SUS,0.5,-,-,20.	Z4489	SA
#N/A	JC61-01777A	HOLDER-BLADE ITB;CLP-300,PC,-,W10,L17.2,		SNA
#N/A	JC61-70940A	SPRING ETC-TR(12);ML-5500,-,4.5,-,12.7,1	O1054	SA
#N/A	JC62-00227A	SEAL-SHUTTER BOTTLE;CLP-300,POLYURETHANE		SNA
#N/A	JC62-00237A	SEAL-AGITATOR BOTTLE;CLP-300,PORON,BLACK		SNA
#N/A	JC62-00259A	SEAL-BOTTLE AUGER;CLP-300,PORON LE-20,-,		SNA
#N/A	JC62-00261A	SEAL-SHUTTER A;CLP-300,PE FOAM,-,T10,ID3		SNA
#N/A	JC63-00864A	SHIELD-P-SMPS;CLP-300,SECC,T1.0,109.7,19		SNA
#N/A	JC63-00894A	COVER-INNER;CLP-300,ABS,T2.0,PI 56,-,HB,		SNA
#N/A	JC63-00895A	COVER-INNER BK;CLP-300,ABS,T2.0,R75,-,HB		SNA
#N/A	JC63-01046A	SHEET-AGITATOR;CLP-300,PET,T0.125,W25.5,		SNA
#N/A	JC63-01047A	SHEET-AGITATOR BK;CLP-300,PET,T0.125,W35		SNA
#N/A	JC63-01049A	SHEET-HOUSING ITB;CLP-300,PET FILM,T0.18	Z4529	SNA
#N/A	JC63-01110A	SHEET-BRACKET ITB;CLP-300,PET FILM,T0.18		SNA
#N/A	JC63-01149A	SHEET-REGI;CLX-3160FN,PC,T0.5,W39.2,L29.		SA
#N/A	JC63-01166A	SHEET-MP-SENSOR;CLX-3160FN,PET,T0.125,W3		SNA
#N/A	JC63-01253A	SHEET-BOTTLE AUGER;CLP-300,PET,T0.125,-,		SNA
#N/A	JC64-00218A	SHUTTER-M-TONER BOTTLE;CLP-300,POM HB,-,		SNA
#N/A	JC64-00260A	HANDLE-M-BOTTLE;CLP-300,ABS,T5.9,W32.3,L		SNA
#N/A	JC64-00260B	HANDLE-BOTTLE Y;CLP-300,ABS,T5.4,-,L43.6		SNA
#N/A	JC64-00260C	HANDLE-BOTTLE M;CLP-300,ABS,T5.4,-,L43.6		SNA
#N/A	JC64-00260D	HANDLE-BOTTLE C;CLP-300,ABS,T5.4,-,L43.6		SNA
#N/A	JC66-01095A	GEAR-AGITATOR BOTTLE;CLP-300,POM(DE8903)		SNA
#N/A	JC66-01139A	GEAR-AUGER A;CLP-300,POM,M0.6,Z89,T4.1,B		SNA
#N/A	JC66-01140A	GEAR-AUGER B;CLP-300,POM,M0.6,Z56,T4.1,W		SNA

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#N/A	JC66-01141A	GEAR-AUGER Z15;CLP-300,POM,M0.6,Z15,T3.5		SNA
#N/A	JC66-01144A	SHAFT-AUGER;CLP-300,POM,L67,OD16,BLACK,-		SNA
#N/A	JC66-01145A	SHAFT-SPRING;CLP-300,POM,L16.5,OD11.5,BL		SNA
#N/A	JC66-01146A	SHAFT-AUGER K;CLP-300,POM,L70.3,OD10,WHI		SNA
#N/A	JC66-01216A	PULLEY-M REGI;CLX-3160FN,POM,HB,WHITE,PI		SNA
#N/A	JC66-01217A	PULLEY-M FEED;CLX-3160FN,POM,HB,-,PI6,PI		SNA
#N/A	JC66-01219A	LEVER-M ACTUATOR MANUAL;CLX-3160FN,PC,T2		SNA
#N/A	JC67-00131A	TANK-M-TONER BOTTLE Y;CLP-300,ABS HB,-,P		SNA
#N/A	JC67-00134A	TANK-M-TONER BOTTLE BK;CLP-300,ABS HB,-,		SNA
#N/A	JC67-00135A	CAP-M-TONER BOTTLE;CLP-300,ABS HB,-,PI59		SNA
#N/A	JC67-00135B	CAP-TONER BOTTLE C;CLP-300,ABS HB,T10.87		SNA
#N/A	JC67-00135C	CAP-TONER BOTTLE M;CLP-300,ABS HB,T10.87		SNA
#N/A	JC67-00136A	CAP-M-TONER BOTTLE BK;CLP-300,ABS HB,-,P		SNA
#N/A	JC67-00137A	CAP-M-CRUM BOTTLE;CLP-300,ABS HB,-,PI52,		SNA
#N/A	JC67-00140A	CAP-M-CRUM BOTTLE BK;CLP-300,ABS(HF-0660		SNA
#N/A	JC67-00141A	CAP-M-CRUM BOTTLE C;CLP-300,ABS(HF-0660I		SNA
#N/A	JC67-00142A	CAP-M-CRUM BOTTLE M;CLP-300,ABS(HF-0660I		SNA
#N/A	JC67-00145A	CAP-M-TONER;CLP-300,PP,T4.5,ID16.7,OD19,		SNA
#N/A	JC67-00187A	CAP-BOTTLE Y;CLP-300,PET,T0.65,W64.53,L5		SNA
#N/A	JC67-00188A	CAP-BOTTLE BK;CLP-300,PET,T0.65,R39.1,L5		SNA
#N/A	JC68-00761B	MANUAL-REGISTRATION CARD;COMMON,XAC,FREN		SNA
#N/A	JC68-00761D	MANUAL-REGISTRATION;COMMON,XAA,FRENCH,CA		SNA
#N/A	JC68-01154A	LABEL(R)-POP(A);COMMON,-,PC+HOLOGRAM,T0.		SNA
#N/A	JC68-01344A	MANUAL-WARRANTY CARD;CLP-500,XAA,ENGLISH		SNA
#N/A	JC68-01344B	MANUAL-WARRANTY CARD;COMMON,SAMSUNG,ENGL		SNA
#N/A	JC68-01344C	MANUAL-WARRANTY CARD;COMMON,SAMSUNG,FREN		SNA
#N/A	JC68-01381B	LABEL(R)-PPID(DEVE);COMMON,DELL,ART,0.05		SNA
#N/A	JC68-01563A	MANUAL-800 SEC CARD;COMMON,XAA,ENGLISH,E		SNA
#N/A	JC68-01579A	MANUAL-NETWORK GUIDE;CLP-600N,SEC,-,COMM		SNA
#N/A	JC68-01584A	LABEL(P)-BLANK 90*25;CLP-510,SEE,ART 100	D2120	SA
#N/A	JC68-01695A	LABEL-POP;CLX-3160FN,-,HOLOGRAM PAPER,0.		SNA
#N/A	JC68-01696A	LABEL-POP;CLX-3160FN,-,PP,0.08T,300,80,O		SNA
#N/A	JC68-01707A	LABEL-FUNCTION;CLP-300,-,YUPO,T0.2,W10,L		SNA
#N/A	JC68-01805A	LABEL-FUNCTION;CLP-300,SEC,YUPO,T0.2,W10		SNA
#N/A	JC68-10932A	LABEL(P)-BLANK(ML);ML-85,ART,70X60,G100,		SNA
#N/A	JC69-00453A	BOX(P)-SAFETY PAD;COMMON,LDPE,A,3,45,300		SNA
#N/A	JC69-00957E	CUSHION-FRONT;CLX-3160FN,EPP,T10,W285,L1		SNA
#N/A	JC69-00961A	PAD-FRICTION;CLP-300,NBB,T1.0,W9.0,L39.5	Z4480	SA
#N/A	JC69-01032A	CUSHION-EPP_TOP;CLX-3160,EPP,-,546,584,2		SNA
#N/A	JC69-01033A	CUSHION-BOTTOM;CLX-3160,EPP,-,546,584,11		SNA
#N/A	JC69-01034B	CUSHION-BLOCK;CLX-3160,EPS,-,106,463,25,		SNA
#N/A	JC69-01052A	CUSHION-MAIN_FRONT;CLX-3160,EPP,-,530,60		SNA
#N/A	JC72-00102A	PMO-BUSHING_TR(L);SF-5100,POM (CH-15),BL	O1101	SA
#N/A	JC72-01384A	SPONGE-CAP BOTTLE;CLP-300,POLYURETHANE F		SNA
#N/A	JC72-01389A	SPONGE-CRUM;CLP-300,PORON,-,T2,W8,L12,-,		SNA
#N/A	JC92-01710A	PBA SUB-CRUM_Y;CLP-300,SEC,KOREA,CRUM_Y,		SNA
#N/A	JC92-01711A	PBA SUB-CRUM_M;CLP-300,SEC,KOREA,CRUM_M,		SNA
#N/A	JC92-01712A	PBA SUB-CRUM_C;CLP-300,SEC,KOREA,CRUM_C,		SNA
#N/A	JC92-01713A	PBA SUB-CRUM_K;CLP-300,SEC,KOREA,CRUM_K,		SNA
#N/A	JC92-01718A	PBA SUB-EXIT;CLP-300,SEC,KOREA,EXIT SENS	Z4475	SA
#N/A	JC94-01091A	PHANTOM AU JC92-01746A		SNA
#N/A	JC94-01251A	PHANTOM AU JC92-01707D		SNA
#N/A	JC96-04001A	ELA UNIT-CONNECTOR;CLP-300,SEC,EXPORT,-,		SA
#N/A	JC97-01401A	MEA UNIT-TERMINAL:TR;ML-5000A,SAMSUNG,KO	Z4500	SA
#N/A	JC97-01771A	MEA UNIT-TERMINAL S;CLP-500,SEC,EXPORT,S	K3635	SA
#N/A	JC97-02362A	MEA UNIT-DRAW;CLP-300,SEC,WORLD,-,-,-,-	Z4476	SA

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Drawer#	SEC-Code	Description & Specification	Location	Service
#N/A	JC97-02638A	MEA UNIT-TERMINAL GND;CLP-300,SEC,EXPORT		SA
#N/A	JC97-02640A	MEA UNIT-REGIACTUATOR;CLP-300,SEC,EXPORT		SA
#N/A	JC97-02641A	MEA UNIT-EXIT ROLLER;CLP-300,SEC,EXPORT,		SA
#N/A	JC97-02642A	MEA UNIT-EMPTY ACT;CLP-300,SEC,EXPORT,-,		SA
#N/A	JC97-02829A	MEA UNIT-PLATE K_UP;CLP-300,SEC,WORLD,-,		SA
#N/A	JG61-40001A	FOOT-SF4000;SF4000,CR,-,BLK,CR,3,-,-	F1017	SA
#N/A	JG72-40960A	PMO-CAP TONER;SF6000,PP,BLK,-,-,VO,-,-,-		SNA
#N/A	0201-001162	ADHESIVE-CYA;LOCTITE403,NTR,1250,20G		SNA
#N/A	0201-001183	ADHESIVE-AA;ARON ALPHA #202F,NTR,100,20G		SNA
#N/A	0201-001235	ADHESIVE-TS;DEH-390D,RED,400,-		SNA
#N/A	0201-001594	ADHESIVE-CYA;CA-40,CLEAR,2-10,1.05/8.7		SNA
#N/A	0202-001459	SOLDER-CREAM;S3X58-M405,-,D20~38§-,96.5SS		SNA
#N/A	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP		SA
#N/A	0402-001212	DIODE-RECTIFIER;SS26,60V,2.0A,DO-214AA,T		SA
#N/A	0403-000287	DIODE-ZENER;MMBZ5251B,20.9-23.1V,225MW,S		DNA
#N/A	0404-000112	DIODE-SCHOTTKY;RB420D,40V,100MA,SOT-23,T		SA
#N/A	0407-000122	DIODE-ARRAY;KDS226,80V,300mA,C2-3,SOT-23		SA
#N/A	0501-000342	TR-SMALL SIGNAL;KSC1623-Y,NPN,200mW,SOT-		SA
#N/A	0501-000462	TR-SMALL SIGNAL;MMBT2907A,PNP,350mW,SOT-		SA
#N/A	0501-000479	TR-SMALL SIGNAL;KST42,NPN,350mW,SOT-23,T		SA
#N/A	0501-000632	TR-SMALL SIGNAL;2SB1197K,PNP,200mW,SOT-2		SA
#N/A	0502-001258	TR-POWER;FJT44,NPN,-,SOT-223,TP,40-200		SA
#N/A	0505-001326	FET-SILICON;SI2308DS,N,60V,2A,0.22OHM,1.		SA
#N/A	0505-001350	FET-SILICON;NDT2955,P,-60V,-2.5V,0.3OHM,		SA
#N/A	0801-002446	IC-CMOS LOGIC;74LCX14,SCHMITT INVERTER,T		SNA
#N/A	0803-000634	IC-TTL;74LS07,BUFFER/DRIVER,SOP,14,150MI		SA
#N/A	0904-001865	IC-USC;OTG242LP,16BIT,LQFP,64P,10.0X10.0		SA
#N/A	0904-001989	IC-USC;ISP1582BS,-,HVQFN56,56P,8X8X0.85M		SA
#N/A	1006-001316	IC-LINE DRIVER;FIN1047M,SOP,16P,10X6MM,-		SNA
#N/A	1105-001379	IC-DRAM;K4S561632,-,256MBIT,4X4MX16BIT,T		SA
#N/A	1106-001228	IC-SRAM;6R1016,64KX16BIT,TSOP,44P,400MIL		SA
#N/A	1107-001286	IC-FLASH MEMORY;29LV160,2MX8/1MX16BIT,TS		SNA
#N/A	1201-000105	IC-AUDIO AMP;34119,SOP,8P,150MIL,SINGLE,		SA
#N/A	1202-000164	IC-VOLTAGE COMP.;393,SOP,8P,150MIL,DUAL,		SA
#N/A	1203-001455	IC-POSI.FIXED REG.;1117,DPAK,3P,265MIL,P		SA
#N/A	1203-002233	IC-RESET;XC61F,SOT-23,3P,-,PLASTIC,0.7/1		SNA
#N/A	1203-003739	IC-DC/DC CONVERTER;MVPG31,DFN,12P,4X3MM,		SNA
#N/A	1204-002457	IC-SIGNAL PROCESSOR;HT82V26A,209MIL,28P,		SNA
#N/A	1205-002339	IC-CLOCK GENERATOR;CY25811SC,SOIC,8P,150		SA
#N/A	1205-002478	IC-DAA;CX20493-21/FAX,QFN,28P,5X5MM,PLAS		SA
#N/A	1205-002593	IC-TRANSCEIVER;E-STE100P,TQFP,64P,10X10M		SNA
#N/A	1205-002654	IC-MODEM;CX86710-12,TQFP,64P,7X7MM,PLAST		SA
#N/A	1401-001069	THYRISTOR-SIDAC;P3100EB,275V,0.15A,250A,		SA
#N/A	1404-001065	THERMISTOR-PTC;0.11OHM,-,-,13.2VAC,40A,1		SA
#N/A	1405-000170	VARISTOR;82V,1200A,9x4.1mm,TP		SA
#N/A	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608		SA
#N/A	2007-000066	R-CHIP;20Kohm,1%,1/10W,TP,1608		SA
#N/A	2007-000067	R-CHIP;15Kohm,1%,1/10W,TP,1608		SA
#N/A	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608		SA
#N/A	2007-000080	R-CHIP;2Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000082	R-CHIP;3.3Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000083	R-CHIP;3Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000086	R-CHIP;5.6Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000092	R-CHIP;15Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000093	R-CHIP;20Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000097	R-CHIP;47Kohm,5%,1/10W,TP,1608		SA

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#N/A	2007-000105	R-CHIP;200Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000106	R-CHIP;220Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000107	R-CHIP;470Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608		SA
#N/A	2007-000123	R-CHIP;1.5Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000132	R-CHIP;180Kohm,5%,1/10W,TP,1608		SNA
#N/A	2007-000133	R-CHIP;330Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000134	R-CHIP;33Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000136	R-CHIP;300Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000239	R-CHIP;1.5Kohm,1%,1/10W,TP,1608		SA
#N/A	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608		SA
#N/A	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608		SA
#N/A	2007-000475	R-CHIP;1Mohm,1%,1/10W,TP,1608		SA
#N/A	2007-000481	R-CHIP;1Mohm,5%,1/4W,TP,3216		SA
#N/A	2007-000539	R-CHIP;200ohm,5%,1/10W,TP,1608		SA
#N/A	2007-000660	R-CHIP;27ohm,5%,1/4W,TP,3216		SA
#N/A	2007-000740	R-CHIP;30Kohm,5%,1/4W,TP,3216		SA
#N/A	2007-000965	R-CHIP;5.1Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-001044	R-CHIP;56ohm,5%,1/10W,TP,1608		SNA
#N/A	2007-001056	R-CHIP;6.2Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-001134	R-CHIP;68ohm,5%,1/10W,TP,1608		SA
#N/A	2007-001161	R-CHIP;75Kohm,5%,1/10W,TP,1608		SNA
#N/A	2007-002760	R-CHIP;6.8Mohm,5%,1/4W,TP,3216		SA
#N/A	2007-002901	R-CHIP;12.1Kohm,1%,1/10W,TP,1608		SA
#N/A	2007-007226	R-CHIP;49.9ohm,1%,1/10W,TP,1608		SNA
#N/A	2007-007239	R-CHIP;31.6Kohm,1%,1/10W,TP,1608		SNA
#N/A	2007-007297	R-CHIP;110ohm,1%,1/10W,TP,1608		SNA
#N/A	2007-007998	R-CHIP;348KOHM,1%,1/4W,TP,3216		SNA
#N/A	2007-008371	R-CHIP;280Kohm,1%,1/10W,TP,1608		SNA
#N/A	2007-008473	R-CHIP;59Kohm,1%,1/10W,TP,1608		SA
#N/A	2007-008510	R-CHIP;237KOHM,1%,1/4W,DA,TP,3216		SA
#N/A	2011-001094	R-NET;39OHM,5%,1/16W,L,CHIP,8P,TP		SA
#N/A	2011-001261	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,2.0x1.		SA
#N/A	2203-000041	C-CER,CHIP;0.01nF,0.25pF,50V,C0G,1608		SA
#N/A	2203-000357	C-CER,CHIP;0.15nF,5%,50V,C0G,1608		SA
#N/A	2203-000384	C-CER,CHIP;0.015nF,5%,50V,C0G,1608		SA
#N/A	2203-000426	C-CER,CHIP;0.018nF,5%,50V,C0G,1608		SA
#N/A	2203-000491	C-CER,CHIP;2.2nF,10%,50V,X7R,1608		SA
#N/A	2203-000681	C-CER,CHIP;0.027nF,5%,50V,C0G,1608		SA
#N/A	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608		SA
#N/A	2203-000815	C-CER,CHIP;0.033nF,5%,50V,C0G,1608		SA
#N/A	2203-000975	C-CER,CHIP;47nF,10%,25V,X7R,TP,1608,-		SA
#N/A	2203-001071	C-CER,CHIP;0.056nF,5%,50V,C0G,1608		SA
#N/A	2203-001598	C-CER,CHIP;2200nF,+80-20%,16V,Y5V,2012		SA
#N/A	2203-001607	C-CER,CHIP;0.22nF,5%,50V,NP0,1608		SA
#N/A	2203-005221	C-CER,CHIP;15nF,10%,50V,X7R,1608		SA
#N/A	2203-005384	C-CER,CHIP;4700nF,+80-20%,10V,Y5V,2012		SA
#N/A	2203-005757	C-CER,CHIP;33nF,10%,200V,X7R,TP,3216		SA
#N/A	2203-005758	C-CER,CHIP;47nF,10%,200V,X7R,TP,3216		SNA
#N/A	2203-005819	C-CER,CHIP;1000nF,+80-20%,16V,Y5V,-,1608		SNA
#N/A	2203-006001	C-CER,CHIP;0.1NF,5%,3KV,NPO,TP,4520		SNA
#N/A	2203-006468	C-CER,CHIP;10nF,+-10%,250V,X7R,-,2012		SA
#N/A	2203-006474	C-CER,CHIP;22000nF,20%,6.3V,X5R,2012		SA
#N/A	2203-006646	C-CER,CHIP;10000nF,10%,6.3V,X5R,2012		SA
#N/A	2401-000207	C-AL;100uF,20%,50V,WT,TP,8x12,5		SNA
#N/A	2402-001049	C-AL,SMD;10uF,20%,16V,GP,TP,3.3x3.3x5.4		SA

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#N/A	2602-000061	TRANS-PULSE;30UH,0.225/0.325OHM,1:1.5,9.		SA
#N/A	2602-000062	TRANS-PULSE;450UH,0.25/0.25OHM,1:1,12.8X		SA
#N/A	2703-000300	INDUCTOR-SMD;1uH,10%,1608		SA
#N/A	2703-002055	INDUCTOR-SMD;2.2UH,20%,6363		SNA
#N/A	2801-000111	CRYSTAL-SMD;0.032768MHZ,20PPM,28-AAW,12.		SA
#N/A	2804-001520	OSCILLATOR-CLOCK;6MHz,25ppm,10TTL,15pF,T		SNA
#N/A	2901-001178	FILTER-EMI SMD;25V,2A,-,100000pF,2x1.25x		SA
#N/A	3301-000325	BEAD-SMD;60ohm,3.2x2.5x1.3mm,400mA,TP,,,		SNA
#N/A	3301-001084	BEAD-SMD;600ohm,2012,300mA,TP,522ohm/70M		SNA
#N/A	3301-001122	BEAD-SMD;600ohm,1.6x0.8x0.8mm,TP,-,-		SNA
#N/A	3301-001240	BEAD-SMD;120ohm,1608,200mA,,393ohm/305MH		SNA
#N/A	3711-003411	HEADER-BOARD TO CABLE;BOX,5P,1R,2mm,STRA		SNA
#N/A	3722-001051	JACK-USB;4P/1C,AU,BLK,ANGLE,A TYPE		SA
#N/A	4715-001084	SURGE ABSORBER;600V,20%,500A,-,RADIAL(TP		SNA
#N/A	6009-001396	SCREW-SPECIAL;PH,+,-,M3,L10.3,ZPC(BLK),S	Z4565	SNA
#N/A	6021-000222	NUT-HEXAGON;2C,M3,ZPC(YEL),SM20C,-	Z4564	SNA
#N/A	6044-001035	RING-ETC;ID2.2,OD6.4,T3,BLK,STS304		SNA
#N/A	6107-001299	SPRING-ES;SUS304-WPB,PI0.35,D2,L22.8,ID1		SA
#N/A	6601-001384	BEARING-BALL;676ZZ,ID6,OD10,L3,GCr 15 +	Z4519	SNA
#N/A	JC13-00031C	IC ASIC-CHORUSM;CHORUSM,SCX-5530FN,496PI	Z6023	SA
#N/A	JC39-00036A	CBF HARNESS-OPE GND;SF-5100,#18,UL 1007,	Z6026	SA
#N/A	JC39-00490A	WIRE HARNESS-WASTE_T;CLP-300,WIRE HARNES		SA
#N/A	JC39-00492A	CBF HARNESS-PTL;CLP-300,WIRE HARNESS,UL1		SNA
#N/A	JC39-00493A	CBF HARNESS-THER;CLP-300,WIRE HARNESS,UL	Z4457	SA
#N/A	JC39-00495A	CBF HARNESS-EXIT;CLP-300,WIRE HARNESS,UL		SA
#N/A	JC39-00577A	CBF HARNESS-DEVE_ITB;CLP-300,WIRE HARNES		SNA
#N/A	JC39-00580A	CBF HARNESS-DEVE_HOME;CLP-300,WIRE HARNE		SA
#N/A	JC39-00607A	HARNESS-REGI_EMT_MP;CLX-3160,HARNESS,UL1		SA
#N/A	JC41-00300B	PCB-MAIN;CLP-300,FR-4,6L,1.3,1.6T,-,-,-,		SNA
#N/A	JC41-00318A	PCB-MODEM;SCX-5530FN, FR4,2,-,1.6T,114*5		SNA
#N/A	JC60-00014A	FLANGE-M-DRUM OPC;CLP-300,PC(LF1025),W11		SNA
#N/A	JC60-00015A	SPACER-M-DR G;CLP-300,KL4540,-,ID6.03,OD		SNA
#N/A	JC61-00424A	BUSH-4;ML-9400W,NTN B-F4-42,-,-,-,NTR,-	K2867	SA
#N/A	JC61-01120B	PLATE-CRUM;CLP-300,C5210P,0.15,W3,L5.2,-		SNA
#N/A	JC61-01281A	BRACKET-P-BAR_PICK_UP;ML-1610,SECC,T1.0,		SNA
#N/A	JC61-01466A	FRAME-M-T2 BASE;CLP-300,PC+ABS,-,HB,BLAC		SNA
#N/A	JC61-01467A	PLATE-P-T2 GROUND;CLP-300,C5210P 1/2H TA		SNA
#N/A	JC61-01468A	GUIDE-P-T2 OUTPUT;CLP-300,SECC,T0.6,-,22		SNA
#N/A	JC61-01469A	HOLDER-M-LOCATE SHAFT;CLP-300,POM (M90-4		SNA
#N/A	JC61-01470A	GUIDE-P-T2 INPUT;CLP-300,SECC,T0.6,-,230		SNA
#N/A	JC61-01492A	FRAME-M-LEFT OPC;CLP-300,ABS+GF20%,-,-,B		SNA
#N/A	JC61-01493A	FRAME-M-RIGHT OPC;CLP-300,ABS+GF20%,-,-,		SNA
#N/A	JC61-01496A	HOUSING-M-CLEANING OPC;CLP-300,ABS GF 20		SNA
#N/A	JC61-01500A	BRACKET-P-CLEANING ITB;CLP-300,SECC,1.6T		SNA
#N/A	JC61-01501A	PLATE-P-EARTH OPC;CLP-300,C5210P,T0.2,ID		SNA
#N/A	JC61-01508A	FRAME-M-DEVE YELLOW;CLP-300,ABS+GF20%,GR		SNA
#N/A	JC61-01509A	FRAME-M-DEVE MAGENTA;CLP-300,ABS+GF20%,G		SNA
#N/A	JC61-01510A	FRAME-M-DEVE CYAN;CLP-300,ABS+GF20%,GR40		SNA
#N/A	JC61-01511A	FRAME-M-DEVE BLACK;CLP-300,ABS+GF20%,GR4		SNA
#N/A	JC61-01512A	HOLDER-M-DEVE YELLOW L;CLP-300,ABS+GF20%		SNA
#N/A	JC61-01516A	GUIDE-M-DEVE;CLP-300,ABS+GF20%,GR4020,22		SNA
#N/A	JC61-01518A	PLATE-P-SUPPLY ROLLER;CLP-300,SUS 301-CS		SNA
#N/A	JC61-01519A	PLATE-P-DEVE ROLLER;CLP-300,SUS 301-CSP		SNA
#N/A	JC61-01526A	GUIDE-M-BUSH IDL ITB R;CLP-300,POM M90-4		SNA
#N/A	JC61-01527A	HOLDER-P-SEAL DEVE L;CLP-300,SUS301-CSP		SNA
#N/A	JC61-01528A	HOLDER-P-SEAL DEVE R;CLP-300,SUS301-CSP		SNA

SA : SERVICE AVAILABLE SNA : SERVICE not AVAILABLE DNA : DELIVERY not AVAILABLE

Drawer#	SEC-Code	Description & Specification	Location	Service
#N/A	JC61-01529A	HOLDER-M-CRUM;CLP-300,ABS(XR-409),T2.0,W		SNA
#N/A	JC61-01561A	HOLDER-M-DEVE ROLLER;CLP-300,POM M90-44,		SNA
#N/A	JC61-01562A	GUIDE-M-DRIVE ITB;CLP-300,POM(M90-44),-,		SNA
#N/A	JC61-01572A	HOLDER-M-SHAFT CLUTCH;CLP-300,POM,T1.5,D		SA
#N/A	JC61-01576A	BUSH-SHAFT;CLP-300,POM,ID3.0,OD4.5,T3.5,		SNA
#N/A	JC61-01669A	GUIDE-M-SENSOR L;CLP-300,PS,T10.29,W11.7		SNA
#N/A	JC61-01670A	GUIDE-M-SENSOR R;CLP-300,PS,T10.29,W11.7		SNA
#N/A	JC61-01671A	GUIDE-M-SENSOR BK R;CLP-300,PS,T10,W13.4		SNA
#N/A	JC61-01672A	GUIDE-M-SENSOR BK L;CLP-300,PS,T10,W13.4		SNA
#N/A	JC61-01673A	BLADE-CLEANING ITB;CLP-300,POLYURETHANE,		SNA
#N/A	JC61-01684A	BLADE-SENSOR;CLP-300,PET FILM,-,W6.3*L9.		SNA
#N/A	JC61-01700A	GUIDE-WASTE;CLP-300,PC,-,31,41,TRANSPARE		SNA
#N/A	JC61-01750A	BRACKET-P_GUIDE PR;CLP-300,SUS,T1.0,W232		SNA
#N/A	JC61-01751A	GUIDE-P_PAPER PR;CLP-300,SUS304,T0.1,W21		SNA
#N/A	JC61-01753A	PLATE-_P-DEVE SUPPORT;CLP-300,STSC301-CS		SNA
#N/A	JC61-01775A	BRACKET-CAM BAR;CLP-300,SECC,T1.2,W4.5,L		SNA
#N/A	JC61-70929A	SPRING ETC-HV LARGE;ML-5000A,SUS304-WPB,	Z4437	SA
#N/A	JC62-00211A	SEAL-DRUM OPC;CLP-300,URETHANE FILM,-,T0		SNA
#N/A	JC62-00215A	SEAL-SIDE DEVE;CLP-300,PORON LE20,BLACK,		SNA
#N/A	JC62-00216A	SEAL-BRACKET OPC;CLP-300,EPDM,-,T2.7,W3,		SNA
#N/A	JC62-00226A	SEAL-DOCTOR BLADE;CLP-300,EPDM,-,T4.0,W4		SNA
#N/A	JC62-00230A	SEAL-SIDE RIGHT OPC;CLP-300,POLYURETHANE		SNA
#N/A	JC62-00231A	SEAL-SIDE LEFT OPC;CLP-300,POLYURETHANE		SNA
#N/A	JC62-00234A	SEAL-DEVE BLOCK;CLP-300,POLYURETHANE,-,3		SNA
#N/A	JC62-00235A	SEAL-DEVE ROLLER;CLP-300,PET Film,-,0.07		SNA
#N/A	JC62-00236A	SEAL-DEVE FRONT;CLP-300,PET FILM,-,0.075		SNA
#N/A	JC62-00240A	SEAL-AUGER;CLP-300,PORON ,BLACK,T5.0,ID4		SNA
#N/A	JC62-00241A	SEAL-COVER DUCT;CLP-300,PE FOAM,-,T2.0,W		SNA
#N/A	JC62-00256A	SEAL-FRAME WASTE OPC;CLP-300,PORON LE-20		SNA
#N/A	JC62-00260A	SEAL-CAP CRUM;CLP-300,Polyurethane Foam(		SNA
#N/A	JC62-00262A	SEAL-WASTE;CLP-300,PE FORM,-,T3.0,W4,L13		SNA
#N/A	JC62-00269A	SEAL-COVER FRONT;CLP-300,PE FOAM,-,T2.0,		SNA
#N/A	JC62-00270A	SEAL-COVER BOTTOM;CLP-300,POLYURETHANE F		SNA
#N/A	JC62-00271A	SEAL-COVER DEV K;CLP-300,PE FOAM,-,T3.0,		SNA
#N/A	JC62-00272A	SEAL-LSU REAR;CLP-300,URETHAN FILM,NTR,T		SNA
#N/A	JC62-00273A	SEAL-DEVE ROLLER K;CLP-300,PET FILM,-,T0		SNA
#N/A	JC62-00274A	SEAL-SIDE GAP OPC;CLP-300,POLYURETHAN FO		SNA
#N/A	JC62-00275A	SEAL-BLADE;CLP-300,PE FOAM,-,T3.0,W3,L8.		SNA
#N/A	JC62-00279A	SEAL-SENSOR BK;CLP-300,FLOCKING(DOBIRU),		SNA
#N/A	JC62-00280A	SEAL-SENSOR Y;CLP-300,FLOCKING(DOBIRU),B		SNA
#N/A	JC62-00306A	SEAL-CAP DUCT;CLP-300,FLOCKING,-,T0.5,W8		SNA
#N/A	JC62-00307A	SEAL-SENSOR;CLP-300,FLOCKING,-,T0.5,W13.		SNA
#N/A	JC62-00308A	SEAL-DOCTOR BLADE S;CLP-300,EPDM,-,T2.0,		SNA
#N/A	JC62-00320A	SEAL-WASTE F;CLP-300,PE FOAM,GRAY,2.0T,W		SNA
#N/A	JC62-00321A	SEAL-WASTE R;CLP-300,PE FOAM,GRAY,2.0T,w		SNA
#N/A	JC62-00324A	SEAL-WASTE B;CLP-300,POLY-URETHANE(SHL),		SNA
#N/A	JC62-00341A	SEAL-WASTE EXIT;CLP-300,PORON LE-20 + PE		SNA
#N/A	JC62-00342A	SEAL-SIDE CLN OPC;CLP-300,POLYURETHANE F		SNA
#N/A	JC62-00343A	SEAL-SENSOR TOP;CLP-300,EPDM,-,T2.5,W4,L		SNA
#N/A	JC63-00858A	COVER-M-WASTE OPC;CLP-300,ABS,T2,W15.8,L		SNA
#N/A	JC63-00883A	COVER-M-WASTE;CLP-300,PC(141R),T2.0,W77,		SNA
#N/A	JC63-00898A	COVER-M-DEVE Y;CLP-300,ABS HF0660I,T1.5,		SNA
#N/A	JC63-00899A	COVER-M-DEVE M;CLP-300,ABS HF0660I,T1.5,		SNA
#N/A	JC63-00900A	COVER-M-DEVE C;CLP-300,ABS HF0660I,T1.5,		SNA
#N/A	JC63-00901A	COVER-M-DEVE K;CLP-300,ABS HF0660I,T1.5,		SNA
#N/A	JC63-01037A	TRAY-M-MP;CLX-3160FN,ABS,T2.0,W245.4,L17		SA

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Drawer#	SEC-Code	Description & Specification	Location	Service
#N/A	JC63-01048A	SHEET-COVER HARNESS;CLP-300,PC,T0.125,W4		SNA
#N/A	JC63-01086A	SHEET-WASTE;CLP-300,PET,T0.188,W24,L24,B		SNA
#N/A	JC63-01087A	SHEET-LSU COVER;CLP-300,PC,T0.38,W17,L23		SNA
#N/A	JC63-01142A	SHEET-FILM YELLOW UP;CLP-300,PC,T0.38,W5	Z4615	SNA
#N/A	JC63-01164A	SHEET-HOUSING REAR;CLP-300,PC,T0.38,W11.		SNA
#N/A	JC64-00276A	LOCKER-FRAME;CLP-300,PC,BLK,-,-,-		SNA
#N/A	JC66-00494A	GEAR-OPC ROLL CLEAN_Z18;CLP-500,POM,M0.8		SNA
#N/A	JC66-00604A	ROLLER-CHARGER CLEANING;CLP-500,URETHAN+		SNA
#N/A	JC66-00720A	SHAFT-P-CORE;ML-1750,SECC 1.2T,203,-,-,-	O1068	SA
#N/A	JC66-00830A	ROLLER-M-EXIT FR;ML-1610,TEFLON,6.5,L22.		SNA
#N/A	JC66-00896A	ROLLER-M-IDLE_ DUP;ML-3560,POM,OD9.6,14.	D2117	SA
#N/A	JC66-01058A	LATCH-M-CLUTCH SPRING;CLP-300,POM,T1.2,D		SNA
#N/A	JC66-01069A	GEAR-CLUTCH DEVE CAM;CLP-300,POM,M0.6,Z2		SA
#N/A	JC66-01072A	SHAFT-LOCATE;CLP-300,SUM 22+NI(COATING),		SNA
#N/A	JC66-01074A	LEVER-M-RELEASE R;CLP-300,ABS+GF20%,T2.0		SNA
#N/A	JC66-01075A	LEVER-M-RELEASE L;CLP-300,ABS+GF20%,T2.0		SNA
#N/A	JC66-01081A	GEAR-RDCN T2 DRIVE;CLP-300,POM,M0.8/M0.8		SA
#N/A	JC66-01084A	SHAFT-M-AUGER OPC;CLP-300,ABS+GF20%,L250		SNA
#N/A	JC66-01086A	GEAR-DRUM OPC;CLP-300,PC(LF1025),M0.6,Z9		SNA
#N/A	JC66-01088A	SHAFT-OPC;CLP-300,SUS303,L284.5,OD6,-,-,		SNA
#N/A	JC66-01090A	GEAR-DEVE ROLLER;CLP-300,POM DE8903,M0.6		SNA
#N/A	JC66-01091A	GEAR-SUPPLY ROLLER;CLP-300,POM DE588P,M0		SNA
#N/A	JC66-01092A	SHAFT-M-AUGER SUPPLY;CLP-300,ABS GF20% G		SNA
#N/A	JC66-01093A	SHAFT-M-BELT;CLP-300,POM(M90-44),24.8,¥ÕS		SNA
#N/A	JC66-01100A	SHAFT-M-AUGER TONER M;CLP-300,ABS GF20%		SNA
#N/A	JC66-01101A	SHAFT-M-AUGER TONER C;CLP-300,ABS GF20%		SNA
#N/A	JC66-01102A	SHAFT-M-AUGER TONER K;CLP-300,ABS GF20%		SNA
#N/A	JC66-01107A	GEAR-AUGER SUPPLY;CLP-300,POM DE588P,M0.		SNA
#N/A	JC66-01109A	GEAR-AUGER TONER;CLP-300,POM DE588P,M0.5		SNA
#N/A	JC66-01121A	LEVER-M-T2 HOLDER R;CLP-300,ABS+GF20%,T2		SNA
#N/A	JC66-01122A	LEVER-M-T2 HOLDER L;CLP-300,ABS+GF20%,T2		SNA
#N/A	JC66-01123A	GEAR-AUGER OPC;CLP-300,POM (M90-44),M0.5		SNA
#N/A	JC66-01124A	GEAR-IDLE OPC;CLP-300,POM (M90-44),M0.6/		SNA
#N/A	JC66-01125A	ROLLER-DEVE;CLP-300,NBR+ECO,OD10,L295.3,		SNA
#N/A	JC66-01126A	ROLLER-SUPPLY;CLP-300,Fur Brush,OD9.15,L		SNA
#N/A	JC66-01127A	DRUM-OPC;CLP-300,AL,ID58,OD60,L248,-,-		SNA
#N/A	JC66-01129A	ROLLER-DRIVE ITB;CLP-300,AL+EPDM,OD29.7,		SNA
#N/A	JC66-01130A	ROLLER-IDLE ITB;CLP-300,AL,OD30,L234,-,-		SNA
#N/A	JC66-01137A	GEAR-DRIVE ITB;CLP-300,PC(LF1025),M0.5,Z		SNA
#N/A	JC66-01142A	ROLLER-SLIDE A;CLP-300,POM,L10,OD10.2,BL		SNA
#N/A	JC66-01230A	SHAFT-DEVE FRAME;CLP-300,SUS303,L28.4,¡ËS		SNA
#N/A	JC66-01295A	SHAFT-AUGER SUPPLY Y;CLP-300,ABS GF20% G		SNA
#N/A	JC66-01298A	SHAFT-AUGER SUPPLY C;CLP-300,ABS GF20% G		SNA
#N/A	JC66-01299A	SHAFT-AUGER SUPPLY M;CLP-300,ABS GF20% G		SNA
#N/A	JC67-00143A	CAP-M-WASTE BOTTLE;CLP-300,LDPE(MB9205),		SNA
#N/A	JC67-00144A	TANK-M-WASTE;CLP-300,ABS(TR557A),T2.0,W1		SNA
#N/A	JC67-00162A	CAP-DUCT;CLP-300,NBR,T0.7,17.8,19.7,-,-		SNA
#N/A	JC69-01055A	PAD-KNOCK UP;CLP-300,RUB-OTH,T1.0,W10,L3		SNA
#N/A	JC70-00050A	IPR-TERMINAL;SF-5100,SWRCH1018,-,-,-,-,8	Z4562	SNA
#N/A	JC70-00521A	ADJUST-M-MP_L;CLX-3160FN,ABS HB,T2.0,W11		SA
#N/A	JC70-00522A	ADJUST-M-MP_R;CLX-3160FN,ABS HB,T2.0,W11		SA
#N/A	JC70-10232A	IPR-PLATE SAW;ML-80,SUS304 CSP 1/2H,-,T0	O1099	SA
#N/A	JC70-10961A	IPR-TERMINAL FU;ML-165,C5210P,-,T0.3,-,-	K3422	SA
#N/A	JC70-40912A	ICT-SHAFT HV LARGE;ML-5000A,SWCH18A,-,¥÷	O1100	SA
#N/A	JC70-50901A	IPR-IPM BUSHING DEV R;ML-5000,BRONZE,-,D		SNA
#N/A	JC71-00009A	NPM-BUSHING DEV R;ML-6060,BRONZE,D7*12,-		SNA

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#N/A	JC72-00463A	PMO-CAP CONNECTOR L;ML-6060A,POM,BLACK,-	Z0013	SA
#N/A	JC72-00465A	PMO-CAP CONNECTOR U;ML-6060A,POM,BLACK,-	Z0014	SA
#N/A	JC72-01004A	PMO-IDLE KNOCK UP MP;ML-2150,POM,BLK,-,M	P0041	SA
#N/A	JC72-41010A	PMO-HOUSING TERMINAL;ML-165,ABS GF10%,BL	H6086	SA
#N/A	JC72-41105A	PMO-BUSHING DEV;ML-5000,POM,NTR,-,-,-,-		SNA
#N/A	JC73-00217A	RUBBER-BELT YELLOW;CLP-300,NBR,0.7T,-,22		SNA
#N/A	JC73-00220A	RUBBER-BELT BLACK;CLP-300,NBR,0.7T,-,22,		SNA
#N/A	JC73-00221A	RUBBER-BELT WASTE OPC;CLP-300,NBR,L335.9		SNA
#N/A	JC92-01721A	PBA SUB-REGI_EMPTY;CLP-300,SEC,KOREA,REG		SNA
#N/A	JC92-01722A	PBA SUB-WASTE_R;CLP-300,SEC,KOREA,WASTE_		SNA
#N/A	JC94-00764A	PHANTOM AU JC92-01636A		SNA
#N/A	JC94-01119A	0		SNA
#N/A	JC94-01120A	0		SNA
#N/A	JC94-01121A	0		SNA
#N/A	JC94-01122A	0		SNA
#N/A	JC94-01123A	0		SNA
#N/A	JC94-01125A	0.1		SNA
#N/A	JC94-01126A	0.1		SNA
#N/A	JC94-01129A	0.1		SNA
#N/A	JC94-01130A	0.2		SNA
#N/A	JC97-02416C	MEA UNIT-COVER PLATEN;SCX-5530FN,SEC,-,-		SA
#N/A	JC97-02620A	MEA UNIT-SUS BLADE;CLP-300,SEC,WORLD,-,-		SNA
#N/A	JC97-02628A	MEA UNIT-T2 ROLLER;CLP-300,SEC,WORLD,-,-		SA
#N/A	JC97-02643A	MEA UNIT-BLADE OPC;CLP-300,SEC,EXPORT,-,		SNA
#N/A	JC97-02644A	MEA UNIT-CHARGE OPC;CLP-300,SEC,EXPORT,-		SNA
#N/A	JC97-02694A	MEA-GUIDE IDL ITB;CLP-300,SEC,WORLD,-,-,		SNA
#N/A	JF27-60051A	COIL FILTER;CF5400,60uH,50mOHM,18T	Z6165	SA
#N/A	0401-000005	DIODE-SWITCHING;1N4148,75V,150mA,DO-35,T		SA
#N/A	0407-000101	DIODE-ARRAY;DA204K,20V,100mA,C2-3,SOT-23		SA
#N/A	0601-001138	LED-IR;ROUND,5mm,150mW,4V,950nm,BK		SNA
#N/A	0601-001908	LED;ROUND,RED,3MM,630NM,3.2X4.6MM		SNA
#N/A	0603-001021	PHOTO TR;NPN,20V,5V,20mA,75mW,TP		SA
#N/A	1103-001366	IC-EEPROM;34C02,2KBIT,256X8BIT,SOP,8P,5X		SNA
#N/A	2001-000831	R-CARBON;510OHM,5%,1/4W,AA,TP,2.4X6.4MM		SA
#N/A	2005-000419	R-WIRE WOUND,NON;0.33ohm,1%,1W,AA,TP,4.3		SNA
#N/A	2201-000021	C-CERAMIC,DISC;100NF,+80-20%,50V,Y5V,TP,		DNA
#N/A	2401-001363	C-AL;470uF,20%,16V,GP,TP,10x12.5,5		SA
#N/A	3301-000344	BEAD-RADIAL;200ohm,3.5x0.6x6.5mm,7000mA,		SNA
#N/A	3711-002808	HEADER-BOARD TO CABLE;BOX,7P,1R,2mm,STRA		SNA
#N/A	3711-003408	HEADER-BOARD TO CABLE;BOX,2P,1R,2mm,STRA		SNA
#N/A	JC07-00003A	LCD-DISPLAY(XEV);VHX1620BHRC9,SCX-5312F/	D2159	SA
#N/A	JC39-00306A	CBF HARNESS-LCD;CLP-500,WIRE,UL2877,14-1		SA
#N/A	JC39-00491A	CBF HARNESS-WASTE_R;CLP-300,WIRE HARNESS		SNA
#N/A	JC39-00531A	CBF HARNESS-CCD_HOME;SCX-5530FN,CBF,UL10		SA
#N/A	JC41-00171C	PCB-PTL (1LAYER);SCX-4100,FR-1,1,-,1.6T,		SNA
#N/A	JC41-00201A	PCB-TONER_TX;CLP-500,FR-1,1L,-,1.2,15*10		SNA
#N/A	JC41-00248A	PCB-SUB (1LAYER);SCX-4720F,FR-1,1,-,1.6T		SNA
#N/A	JC41-00296A	PCB SUB-ITB_JOINT;CLP-300,FR-1,1L,-,1.6T		SNA
#N/A	JC41-00298A	PCB SUB-TONER_CRUM;CLP-300,FR-4,2L,-,1.6		SNA
#N/A	JC61-01471A	HOLDER-M-T2 ROLLER R;CLP-300,POM (M90-44		SNA
#N/A	JC61-01507A	PLATE-P-DOCTOR BLADE;CLP-300,SECC,1.2T,3		SNA
#N/A	JC61-01525A	GUIDE-M-BUSH IDL ITB L;CLP-300,POM M90-4		SNA
#N/A	JC61-01545A	BRACKET-P-CLEANING OPC;CLP-300,SECC,T1.2		SNA
#N/A	JC61-01575A	BLADE-P-DOCTOR;CLP-300,SUS,NATURAL,223*1		SNA
#N/A	JC61-01668A	COLLAR-M-CLUTCH;CLP-300,POM,ID11.4,OD13.		SNA
#N/A	JC61-01674A	BLADE-CLEANING OPC;CLP-300,POLY URETHANE		SNA

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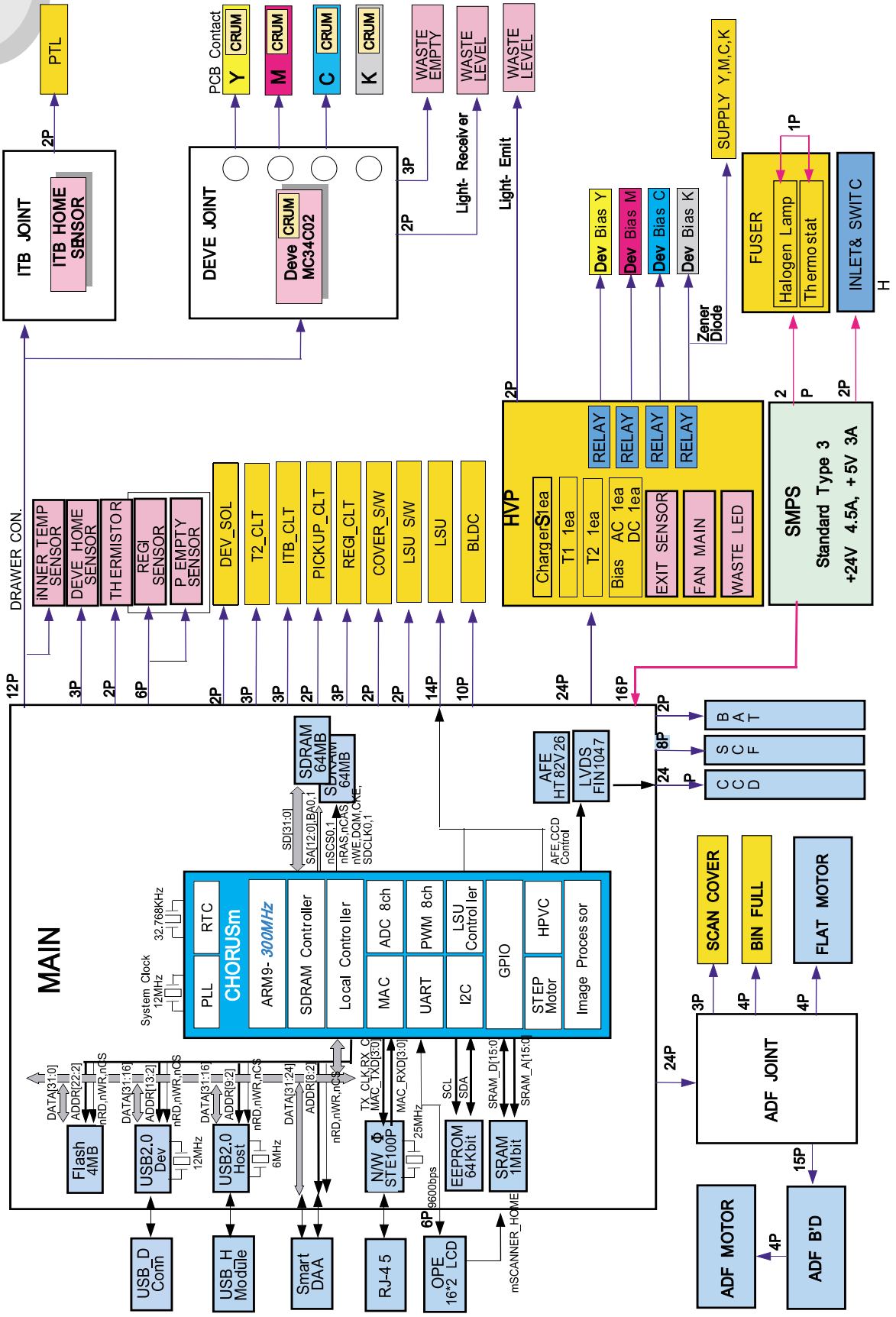
#N/A	JC66-01073A	GEAR-T2 ROLLER;CLP-300,POM,M0.8,Z28,-,WH		SA
#N/A	JC66-01098A	GEAR-CHARGE;CLP-300,POM (M90-44),M0.8,Z1		SNA
#N/A	JC66-01104A	ROLLER-TRANSFER;CLP-300,SUM22+HYBRID FOA		SNA
#N/A	JC66-01224A	GEAR-WORM CLUTCH;CLP-300,POM,M0.8,Z2,-,W		SNA
#N/A	JC66-01308A	ROLLER-CHARGE;CLP-300,NBR+ECO,D12,L230,-		SNA
#N/A	JC68-01099A	LABEL(P)-WARNING ADF;COMMON,SAMSUNG,ART1		SNA
#N/A	JC70-00525A	HUB-M-CLUTCH SPRING;CLP-300,POM,-,D13.4,		SNA
#N/A	JC71-10322B	NPR-EARTH OPC;-,ML-80,C5210P-1/2H,T0.2,-		SNA
#N/A	JC94-01118A	0		SNA
#N/A	JC94-01127A	0.1		SNA
#N/A	JC94-01128A	0.1		SNA
#N/A	JC94-01136A	REV 0.1		SNA
#N/A	0401-000116	DIODE-SWITCHING;MMSD914T1,100V,200MA,SOD		SNA
#N/A	0402-001189	DIODE-RECTIFIER;M4,400V,1A,TS-1,TP		SA
#N/A	0501-000279	TR-SMALL SIGNAL;KSA1182-Y,PNP,150mW,SOT-		SA
#N/A	0501-000457	TR-SMALL SIGNAL;MMBT2222A,NPN,350mW,SOT-		SA
#N/A	0601-001226	LED;SMD,RED,1.2x0.8mm,660nm,1.6x0.8mm		SA
#N/A	0601-001830	LED;SMD,GRN,1.6x0.8x0.4mm,570nm,1.6x0.8x		SA
#N/A	0801-002469	IC-CMOS LOGIC;74HC14,SCHMITT INVERTER,TS		SA
#N/A	1001-000170	IC-ANALOG SWITCH;MC14051BD,SPDT CMOS,SOP		SA
#N/A	1003-001102	IC-MOTOR DRIVER;TEA3718DP,DIP,16P,300MIL		SA
#N/A	1404-001141	THERMISTOR-NTC;5.6Kohm,5%,3200K,2.1mW/C,		SNA
#N/A	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM		SA
#N/A	2007-000033	R-CHIP;0ohm,5%,1/4W,TP,3216		SA
#N/A	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608		SA
#N/A	2007-000075	R-CHIP;220ohm,5%,1/10W,TP,1608		SA
#N/A	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000119	R-CHIP;560ohm,5%,1/10W,TP,1608		SA
#N/A	2007-000120	R-CHIP;680ohm,5%,1/10W,TP,1608		SA
#N/A	2007-000122	R-CHIP;1.2Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608		SA
#N/A	2007-000839	R-CHIP;39ohm,5%,1/10W,TP,1608		SA
#N/A	2007-000939	R-CHIP;47Kohm,1%,1/10W,TP,1608		SNA
#N/A	2007-007233	R-CHIP;61.9ohm,1%,1/10W,TP,1608		SNA
#N/A	2007-007550	R-CHIP;3.16Kohm,1%,1/10W,TP,1608		SNA
#N/A	2007-007613	R-CHIP;121ohm,1%,1/10W,TP,1608		SNA
#N/A	2011-001011	R-NET;10Kohm,5%,1/16W,L,CHIP,8P,TP,3.2x1		SNA
#N/A	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608		SA
#N/A	2203-000998	C-CER,CHIP;0.047nF,5%,50V,C0G,1608		SA
#N/A	2203-001222	C-CER,CHIP;0.82nF,10%,50V,X7R,1608		SA
#N/A	2402-000008	C-AL,SMD;47uF,20%,16V,GP,TP,6.6x6.6x5.4		SA
#N/A	2802-001069	RESONATOR-CERAMIC;7.37MHz,0.5%,TP,4.7x4.		SNA
#N/A	3711-000225	HEADER-BOARD TO CABLE;1WALL,4P,1R,2.5MM,		SNA
#N/A	3711-002001	HEADER-BOARD TO CABLE;BOX,20P,2R,2MM,STR		SA
#N/A	3711-003204	HEADER-BOARD TO CABLE;BOX,24P,2R,2mm,STR		SA
#N/A	3711-003340	HEADER-BOARD TO CABLE;BOX,16P,2R,2mm,STR		SA
#N/A	3711-003409	HEADER-BOARD TO CABLE;BOX,3P,1R,2mm,STRA		SNA
#N/A	3711-003410	HEADER-BOARD TO CABLE;BOX,4P,1R,2mm,STRA		SNA
#N/A	3711-005561	CONNECTOR-HEADER;BOX,5P,1R,2MM,SMD-S,SN,		SA
#N/A	3711-005596	HEADER-BOARD TO CABLE;BOX,3P,1R,2MM,SMD-		SNA
#N/A	3711-005851	HEADER-BATTERY;NOWALL,2P,1R,4.25MM,BATTE		SA
#N/A	3711-006032	CONNECTOR-HEADER;BOX,2P,1R,2MM,SMD-A,SN,		SNA
#N/A	JB13-00004A	IC ASIC-OPE;SF-3100,HT48C5,SSOP,48P,16.1		SA
#N/A	JB70-00236A	ICT-HINGE SHAFT(4IN1);SCX-1150F,SWCH,5.0		SA
#N/A	JC41-00133A	PCB-SENSOR;SCX-5100,FR-1,1L,-,1.6T,22X12		SNA

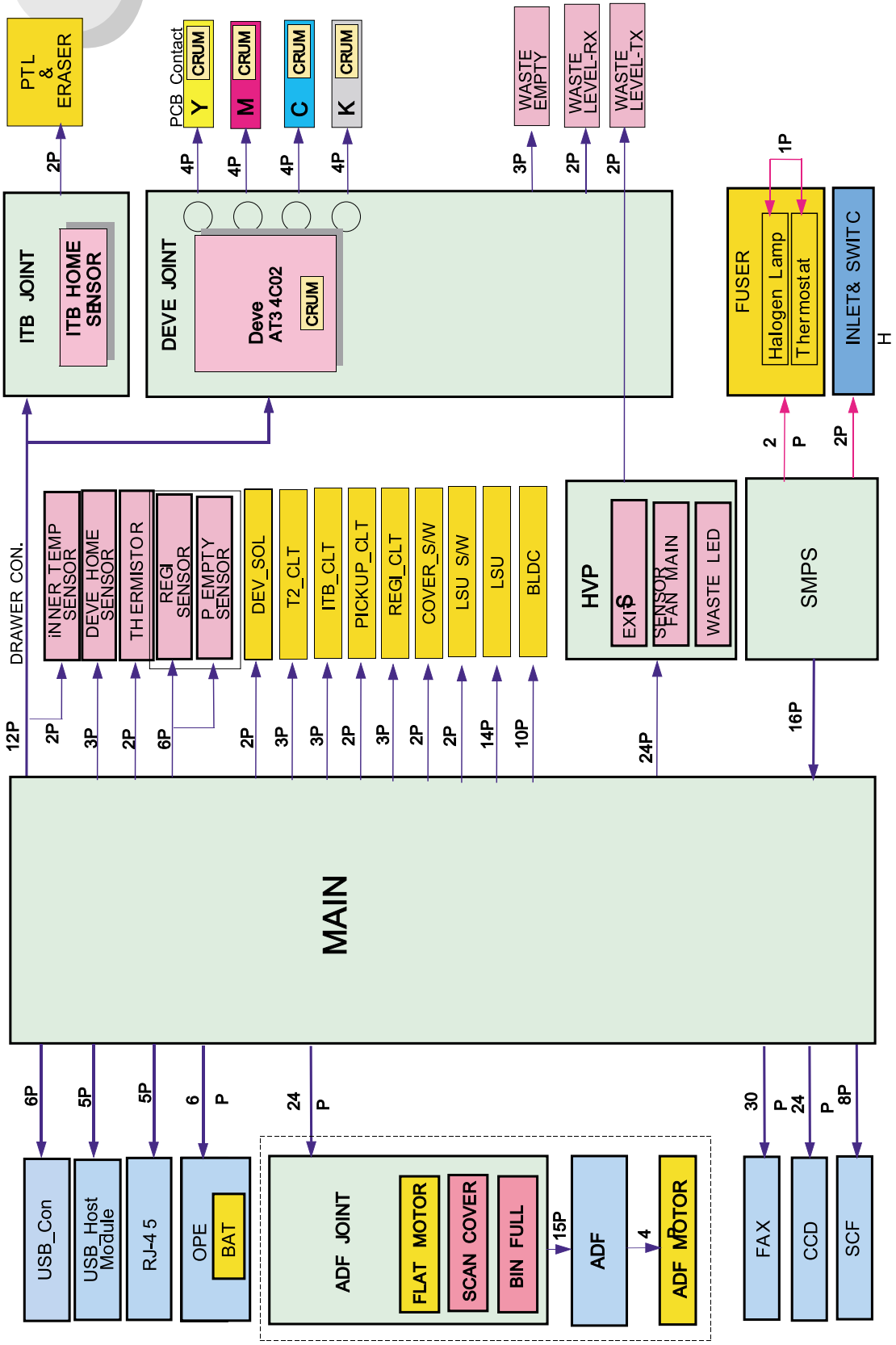
SA : SERVICE AVAILABLE SNA : SERVICE not AVAILABLE DNA : DELIVERY not AVAILABLE

Drawer#	SEC-Code	Description & Specification	Location	Service
#N/A	JC41-00202A	PCB-TONER_RX;CLP-500,FR-1,1L,-,1.2,15*10		SNA
#N/A	JC41-00295A	PCB SUB-DEVE_JOINT;CLP-300,FR-1,1L,-,1.6		SNA
#N/A	JC41-00315A	PCB-OPE;SCX-5530FN,FR-1,1,-,1.6T,380*93.		SNA
#N/A	JC41-00326A	PCB SUB-JOINT;CLX-3160,FR-4,2L,1.6T,110*		SNA
#N/A	JC61-00695A	HINGE-M-CAM;SCX-4216F,POM,-,-,-,WHITE,-	H3011	SA
#N/A	JC61-00696A	HINGE-M-FRAME;SCX-4216F,POM,-,-,-,WHITE,	H3012	SA
#N/A	JC61-00697A	HINGE-M-PRESSURE;SCX-4216F,PC(LF1025),-,	H3016	SA
#N/A	JC62-00002A	HEAT SINK-(4500);ML-4500,BRONZE,0.5,9.3,	Z6058	SA
#N/A	JC94-01252A	PHANTOM AU JC92-01798A		SNA
#N/A	JC94-01296A	PHANTOM AU JC92-01859A		SNA
#N/A	1003-001535	IC-MOTOR DRIVER;A3977SLP,TSSOP,28P,9.6X4		SA
#N/A	2001-000111	R-CARBON;150OHM,5%,1/4W,AA,TP,2.4X6.4MM		SA
#N/A	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM		SA
#N/A	2001-000490	R-CARBON;200OHM,5%,1/8W,AA,TP,1.8X3.2MM		SA
#N/A	2001-000626	R-CARBON;300OHM,5%,1/4W,AA,TP,2.4X6.4MM		SA
#N/A	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM		SA
#N/A	2001-001031	R-CARBON;91KOHM,5%,1/8W,AA,TP,1.8X3.2MM		SA
#N/A	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608		SA
#N/A	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000094	R-CHIP;22Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000096	R-CHIP;30Kohm,5%,1/10W,TP,1608		SA
#N/A	2007-000729	R-CHIP;300ohm,5%,1/10W,TP,1608		SA
#N/A	2201-000119	C-CERAMIC,DISC;100NF,+80-20%,50V,Y5V,TP,		SA
#N/A	2201-001057	C-CERAMIC,DISC;0.82NF,10%,50V,Y5P,TP,5X3		SNA
#N/A	2202-000630	C-CERAMIC,MLC-AXIAL;100nF,10%,50V,X7R,TP		SA
#N/A	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608		SA
#N/A	2203-000192	C-CER,CHIP;100nF,+80-20%,50V,Y5V,2012		SA
#N/A	2203-000206	C-CER,CHIP;100nF,10%,50V,X7R,2012		SA
#N/A	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608		SA
#N/A	2203-000440	C-CER,CHIP;1nF,10%,50V,X7R,1608		SA
#N/A	2203-000626	C-CER,CHIP;0.022nF,5%,50V,C0G,1608		SA
#N/A	2203-002392	C-CER,CHIP;220nF,+80-20%,50V,Y5V,2012		SA
#N/A	2203-005249	C-CER,CHIP;100nF,10%,50V,X7R,1608		SNA
#N/A	2401-000042	C-AL;100uF,20%,16V,GP,TP,6.3x7,5		SA
#N/A	2401-002300	C-AL;47¥iF,20%,50V,GP,TP,6.3x11,5mm		SA
#N/A	JC39-40511A	CBF HARNESS;ML-80,JUMPER,AWG22,52mm,SILV	D2176	SA
#N/A	JC41-00193B	PCB-ADF ROCKY2;SCX-4720F,FR-1,1L,V1.0,1.		SNA

9. Block Diagram



10. Connection Diagram



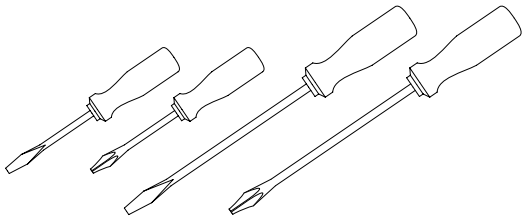
11. Reference Information

This chapter contains the tools list, list of abbreviations used in this manual, and a guide to the location space required when installing the printer. A definition of test pages and Wireless Network information definition is also included.

11.1 Tool for Troubleshooting

The following tools are recommended safe and easy troubleshooting as described in this service manual.

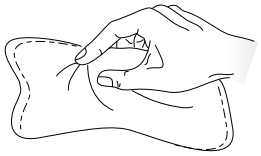
- **Driver**
  Standard : "-" type, "+" type (M3 long, M3 short, M2 long, M2 short).



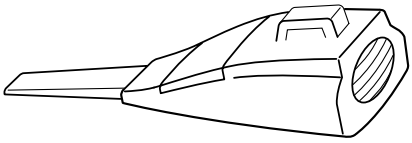
- **Tweezers**
  Standard : For general home use, small type.

- **Cotton Swab**
  Standard : For general home use, for medical service.

- **Cleaning Equipments**
  Standard : An IPA (Isopropyl Alcohol) dry wipe tissue or a gentle neutral detergent and lint-free cloth.

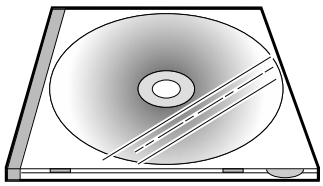


- **Vacuum Cleaner**



- **Spring Hook**
  Standard : For general use

- **Software (Driver) installation CD ROM**



11.2 Acronyms and Abbreviations

The table below explains abbreviations used in this service manual.
The contents of this service manual are declared with abbreviations in many parts. Please refer to the table.

11.2.1 General

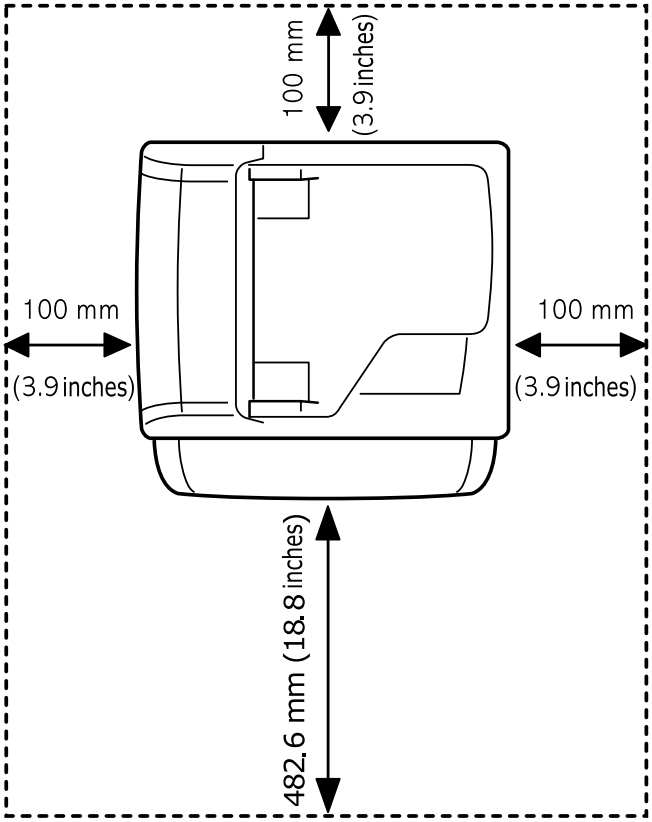
AC	Alternating Current
ADF	Automatic Document Feeder
ASIC	Application Specific Integrated Circuit
ASSY	Assembly
AP	Access Point
AC	Alternating Current
BLDC Motor	Brushless DC Motor
BIOS	Basic Input Output System
CLBP	Color Laser Beam Printer
CMOS	Complementary Metal Oxide Semiconductor
CMYK	Cyan, Magenta, Yellow, Black
CN	Connector
CON	Connector
CPU	Central Processing Unit
CTD Sensor	Color Toner Density Sensor
CCD	Charge Coupled Device
CRUM	Customer Replaceable Unit Memory
dB	decibel
dbA	decibelampere
dBM	decibel milliwatt
DC	direct current
DCU	Diagnostic Control Unit
DPI	Dot Per Inch
DRAM	Dynamic Random Access Memory
DVM	Digital Voltmeter
DPI	Dot Per Inch
DRAM	Dynamic Random Access Memory
ECP	Enhanced Capability Port
EEPROM	Electronically Erasable Programmable Read Only Memory
EMI	Electro Magnetic Interference
EP	electrophotographic
EPP	Enhanced Parallel Port
FCOT	First Copy Out Time
F/W	firmware
FCF/FCT	First Cassette Feeder/First Cassette Tray
FISO	Front-In, Side-Out
FPOT	First Print out Time
GDI	graphics device interface
GND	ground
GIF	Graphic Interchange Format
HBP	Host Based Printing
HDD	Hard Disk Drive
HV	high voltage
HVPS	High Voltage Power Supply
HTML	Hyper Text Transfer Protocol
I/F	interface
I/O	Input and Output
IC	integrated circuit
IDE	Intelligent Drive electronics or Imbedded Drive Electronics
IEEE	Institute of Electrical and Electronics Engineers. Inc
lb	Pound(s)
ICC	International Color Consortium
IOT	Image Output Terminal (Color printer, Copier)
IPA	Isopropy Alcohol

IPM	Images Per Minute
IPC	Inter Process CommunicationEPP Enhanced parallel Port
ITB	Image Transfer Belt
LAN	local area network
LBP	Laser Beam Printer
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LSU	Laser Scanning Unit
MB	Megabyte
MFP	Multi-Functional Product
MHz	Megahertz
MPBF	Mean Prints Between Failure
MPF/MPT	Multi Purpose Feeder/Multi Purpose Tray
NVRAM	Nonvolatile random access memory
NIC	Network Interface Card
NPC	Network Printer Card
OPC	Organic Photo Conductor
PBA	Printed Board Assembly
PCL	Printer Command Language , Printer Control Language
PDL	Page Discription Language
PPM	Page Per Minute
PCL	Printer Command Language , Printer Control Language
PCI	Peripheral Component Interconnect by Intel 1992/6/22, is a local bus standard developed by Intel and introduced in April, 1993 : A60, B60 Pins
PCL5Ce	Printer Command Language 5Ce-Color
PCL6	Printer Command Language 6
PDF	Portable Document Format
PDL	Page Description Language
Ping	Packet internet or Inter-Network Groper
PPD	Postscript Printer Discription
PPM	Page Per Minute
PS	Post Script
PS3	Post Script Level3
PTL	Pre-Transfer Lamp
PTB	Paper-Transfer Belt
PWM	Pulse Width Moduration
Q'ty	Quantity
RAM	Random Access Memory
RCP	Remote Control Panel
ROM	Read Only Memory
SCF/SCT	Second Cassette Feeder/Second Cassette Tray
SMPS	Switching Mode Power Supply
SPGP	Samsung Printer Graphic Processor
SPL	Samsung Printer Language
SPL-C	Samsung Printer Language-Color
Spool	Simultaneous Peripheral Operation Online
SRS	Software Requirment Specification
SURF	Surface Rapid Fusing
SW	Switch
Sync	Synchronous or Synchronization
TBD	To Be Determined
T1	ITB
T2	Transfer Roller
TRC	Toner Reproduction Curve
PnP	Universal Plug and Play
U.I.	User Interface
URL	Uniform Resource Locator
USB	Universal Serial Bus
VCCI	Voluntary Control Council for Interference Information Technology Equipment
WECA	Wireless Ethernet Compatibility Alliance
Wi-Fi	Wireless Fidelity

11.3 Select a location for the printer

- Leave enough room to open the printer trays, covers, and allow for proper ventilation. (see diagram below)

- Provide the proper environment :
  - A firm, level surface
  - Away from the direct airflow of air conditioners, heaters, or ventilators
  - Free of extreme fluctuations of temperature, sunlight, or humidity
  - Clean, dry, and free of dust



11.4 A4 ISO 19752 Standard Pattern

This test page is reproduced at 70% of the normal A4 size

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Stephen J. Singel
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23 January 2004

Jonathan Q. Maderia

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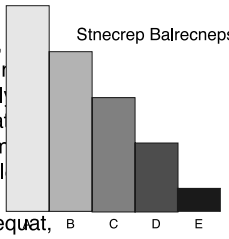

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11.5 Wireless LAN

• This product uses a printing function with a wireless LAN, which is an option.
  - The wireless LAN function uses a frequency instead of connecting LAN cable to connect data to an access point for print.
  - For a wireless LAN connection, an AP is needed, It is possible to use wireless LAN onnection with wired LAN. Also, if AP is installed in an office or at home, the wireless LAN function can be simply used.

• Types of desk top PC (or Lap top) that uses the wireless LAN.

Division	Basic type	Recommend type
CPU	Over PENTIUM 233M	PENTIUM 300MHz
MEMORY	Over 64MB	Over 128MB
VIDEO CARD	Over 800X600	Over 1024X768
OS	Over WINDOWS 98	Over WINDOWS ME
INTERFACE CARD	A product has a certificated mark of Wi-Fi™	

• About the certificated mark of Wi-Fi™

- The Wi-Fi™ is a registered trademark of WECA (Wireless Ethernet Compatibility Alliance). Over 50 of a wireless LAN companies are member of it. The most of main wireless networking companies are attending and the main companies are Lucent technologies, Cisco, Intel/Symbol, 3Com, Enterasys (Cabletron), Compaq, IBM, Nokia, Dell, Philips, Samsung electronic, Sony, Intersil, and so on. This mark certifies mutual compatibility among product has Wi-Fi™ (IEEE 802.1) and it is certified as a standard of a wireless LAN market.

ELECTRONICS

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